

# CURRENT AFFAIRS MAGAZINE APRIL, 2023



**Educrat IAS**  
India's Best Mentorship for Civil Services

- AMBEDKAR & WOMEN'S RIGHTS
- STATE OF EXTRA - JUDICIAL KILLINGS IN INDIA
- CHINA'S DIPLOMACY IN CENTRAL ASIA
- LARGE HADRON COLLIDER
- NATIONAL CIVIL SERVICE DAY



**National Civil  
Services Day**

21<sup>st</sup> April



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# Mains Daily News Analysis

## GS 1

### 1. Ambedkar Vs Gandhian view on separate electorates

#### What is the issue?

In the early 1930s, the **issue of separate electorates for lower castes** became a source of major debate between the two of India's tallest leaders: **Dr BR Ambedkar and Mahatma Gandhi**.

#### What is the system currently followed in India?

- India has a system of **caste-based reservations**.
- It sets aside a certain number of seats for people belonging to castes **that historically experienced social and economic discrimination**.
- Reservations are applicable on **higher education, government jobs, and even political office**.
- There are a certain number of seats reserved for **Scheduled Castes (SCs) and (STs) in all legislative bodies, including Parliament**.

#### What is the alternative suggested against reservation?

- The alternative advocated by Dr BR Ambedkar was the separate electorates.
- Separate electorate** - It is a **mode of election with double vote**, one for Scheduled castes (SCs) to vote for an SC candidate and the other for SCs to vote for in the general electorate.
- Indian Councils Act, 1909 introduced for the first time, the principle of communal representation in India and created a separate electorate for Muslims**

#### What are the different views held by Gandhi and Ambedkar?

Ambedkar	Gandhi
<b>Views on caste</b>	
Ambedkar <b>rejected the institution of caste itself</b> and emphasized political power in the hands of lower castes.	Gandhi <b>advocated for reforming the caste system</b> by abolishing untouchability.
<b>On separate electorates</b>	
Ambedkar suggested <b>separate electorates</b> to empower lower castes. Joint electorates might help to integrate lower castes with Hindu fold, but it is not sufficient to challenge their submissive position.	Gandhi <b>opposed the separate electorate</b> as it would destroy Hinduism by wedging the community and help the British divide and rule. Gandhi felt that it would reduce the power that caste Hindu leadership enjoyed by breaking the consolidated Hindu fold.

#### What is the Poona Pact of 1932?

- Gandhi's fast - In **1932**, Gandhi began a fast unto death in the **Yerawada Jail** against the British decision to create separate electorates based on caste.

#### With pressure from Gandhi, Ambedkar signed the historic Poona Pact in 1932.

- According to this pact, Hindu joint electorate was retained and gave reserved seats to the depressed classes.

- It was signed by **Ambedkar on behalf of the depressed classes** and **Madan Mohan Malviya on behalf of the Upper Caste Hindus**.
- Ambedkar was never satisfied with the outcome of the Poona pact.

## 2. Ambedkar & Women's Rights

### Why in news?

On the day of Ambedkar Jayanti it is imperative to recognize his work that brought women to the centre of the development process.

### What are the efforts taken by Ambedkar towards womens' rights?

- **Equal participation of women** - Ambedkar advocated for equal participation of women in both **personal and professional spheres**.
- **Unequal treatment of women in factories** - He is the first to raise his voice against the unequal treatment of women in factories and other workplaces.
- He was **instrumental in reducing working hours** and **improving working conditions** for women.
- **Equal pay and equal rights** - He drafted legislation such as the **Mines Maternity Benefit Act**, which demanded equal pay and equal rights for coal mine workers.
- **Maternity leave for women** - He ensured that the question of maternity leave for women was brought up and they were protected under labour laws.
- **Reproductive rights of women** - He was a strong believer of it and urged them to make their own choices about conception.
- **Joginis and devadasis** - Since they were typically belonged to Dalit he was **against devadasi system**.
- **Birth control facilities** - In 1938, Ambedkar as a Legislative Assembly member of Bombay, recommended that birth control facilities be made available to women.
- **Hindu Code Bill** – It addressed a variety of issues
  - **Property Rights** – It abolished the idea of birthright to property and unequal ownership of property,
  - **Abolition of caste** – It supported the abolition of caste in matters of marriage
  - **Polygamy & divorce** – It addressed taboo topics such as polygamy and divorce
  - **Conjugal rights** - It led to the restitution of conjugal rights and judiciary rights, which enabled women to consciously make divorce a choice.
- **From the Hindu code of bill the following acts were passed**
  - **The Hindu Marriage Act, 1955** - Right to divorce and maintenance
  - **The Hindu Succession Act, 1956** - Legal right to inherit property
  - **The Hindu Adoption and Maintenance Act 1956** - Legal right for women to adopt a child
  - **The Hindu Minority and Guardianship Act 1956** - Granted women the status of natural guardian of her children.
- These reforms led to the enactment of **Equal Remuneration Act of 1976 and the Dowry Prohibition Act of 1961**.
- **Caste system** – His paper on Castes in India outlines how atrocities on women are rooted in the caste system and **denounced sati, child marriage, and the condemnation of widow remarriage**.

*“Unity is meaningless without the accompaniment of women Education is fruitless without educated women Agitation is incomplete without the strength of women”*

- **B R Ambedkar**

## 3. Heat Waves and its Impacts

### Why in News?

Recently, casualties were observed from an apparent heat stroke while attending a Government award function in Navi Mumbai. This incident highlights the potential risks from heatwaves, which are expected to increase in intensity and frequency due to climate change.



Several factors, such as **long-distance travel, underlying health conditions, and lack of access to drinking water and medical attention in large gatherings, can increase vulnerability to heat strokes.**

### What are Heat Waves?

#### About:

Heatwaves are **prolonged periods of excessively hot weather** that can cause adverse impacts on **human health, the environment, and the economy.**

**India**, being a **tropical country**, is particularly **vulnerable to heatwaves**, which have become more frequent and intense in recent years.

#### Criteria for Declaring Heat Wave in India:

##### Plains and Hilly Regions:

- Heat wave is considered if the **maximum temperature of a station reaches at least 40°C or more for Plains and at least 30°C or more for Hilly regions.** Based on Departure from **Normal Heat Wave:** Departure from normal is 4.50°C to 6.40°C.
- **Severe Heat Wave:** Departure from normal is >6.40°C.
- **Based on Actual Maximum Temperature Heat Wave:** When actual maximum temperature  $\geq 45^\circ\text{C}$ .
- **Severe Heat Wave:** When **actual maximum temperature  $\geq 47^\circ\text{C}$ .** If the above criteria are met in **at least 2 stations in a Meteorological subdivision** for at least two consecutive days, it is declared so on the second day.

##### Coastal Areas:

- When maximum temperature departure is **4.50°C or more from normal**, a heat wave may be described provided the actual maximum temperature is 37°C or more.

**Fatality:** High temperature in itself is not fatal but the **combination of high temperature and high humidity, referred to as the wet bulb temperature**, is what makes heatwaves deadly.

High moisture content in the atmosphere makes it difficult for the sweat to evaporate and bodies to cool down, as a result of which the internal body temperature increases sharply and is often fatal.

#### Causes:

- **Global Warming:** One of the primary causes of heatwaves in India is global warming, which refers to the **long-term increase in Earth's average temperature due to human activities** such as **burning fossil fuels, deforestation, and industrial activities.** Global warming can result in higher temperatures and changes in weather patterns, leading to heatwaves.
- **Urbanisation:** Rapid urbanisation and the growth of concrete jungles in cities can lead to the phenomenon known as the **"urban heat island effect."** Urban areas with high population density, buildings, and concrete surfaces absorb and retain more heat, leading to higher temperatures, particularly during heatwaves.
- **El Nino Effect:** During an El Nino event, **the warming of the Pacific Ocean can affect global weather patterns, causing changes in temperature, rainfall, and wind patterns around the world.** The summer of the year 2023 is predicted to be excessively hot because of the end of the strong La Nina phase in equatorial Pacific Ocean and the earlier-than-expected occurrence of El Nino event.

#### Impacts:

- **Impact on Health:** Rapid rises in heat gain can compromise the body's ability to regulate temperature and can result in a cascade of illnesses, including **heat cramps, heat exhaustion, heatstroke, and hyperthermia.** Deaths and hospitalizations from heat can occur extremely rapidly or have a lagged effect.
- **Impact on Water Resources:** Heatwaves can exacerbate **water scarcity issues in India; drying up of water bodies, reduced water availability for agriculture and domestic use, and increased competition for water resources.** This can lead to conflicts over water, affect irrigation practices, and impact water-dependent industries.

- **Impact on Energy:** Heatwaves can increase **electricity demand for cooling purposes, leading to strain on power grids and potential blackouts.** This can disrupt economic activities, affect productivity, and impact vulnerable populations who may not have access to reliable electricity for cooling during heatwaves.

### Way Forward

- **A Heat Waves Action Plan:** The adverse impacts of heat waves indicate that **effective disaster adaptation strategies and more robust disaster management policies are required** in heatwave zones to lessen the impact of heatwaves.
- As deaths due to heatwaves are preventable, the **Government must prioritise preparing a long-term action plan to safeguard human lives, livestock, and wildlife.**
- Effective implementation of the **Sendai Framework for Disaster Risk Reduction 2015-30 with the State** playing a leading role and sharing responsibility with other stakeholders is now the need of the hour.
- **Implementing Climate Action Plans: National Action Plan for Climate Change (NAPCC)** should be implemented in true spirit for **inclusive growth and ecological sustainability.**
- **Nature-based solutions should be taken into account,** not just for tackling climate change induced heat waves but also doing it in a way that is ethical and promoting intergenerational justice.
- **Sustainable Cooling:** Passive cooling technology, a widely-used strategy to create naturally ventilated buildings, can be a vital alternative to address the urban heat island for residential and commercial buildings.
- **The Intergovernmental Panel on Climate Change (IPCC)** in the third part of its AR6 stated that **ancient Indian building designs that have used this technology, can be adapted to modern facilities in the context of global warming.**
- **Heatwave Mitigation Plans:** Heat-related fatalities can be mitigated through **effective measures such as access to water, oral rehydration solutions (ORS), and shade,** especially at public places along with **flexible working hours in workplaces, and special arrangements for outdoor workers.** Proactive implementation by vigilant local administration, monitored by higher authorities, is also crucial.



## GS 2

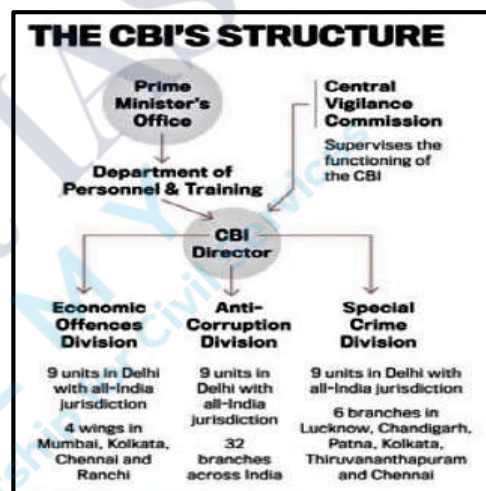
### 1. Issues with Central Bureau of Investigation (CBI)

#### Why in news?

Recently, on the occasion of diamond jubilee celebrations of the CBI, the Prime Minister said the country's premier investigative agency should not spare any corrupt person.

#### About Central Bureau of Investigation (CBI)?

- **Establishment** - Was set up in **1963** by a resolution of the Ministry of Home Affairs but now it works under **Ministry of Personnel, Pension and Public Grievances**.
- **Santhanam Committee** - CBI was recommended by the Santhanam Committee on Prevention of Corruption.
- **Motto** - Industry, Impartiality and Integrity.
- **Powers** - It derives its power to investigate from the Delhi Special Police Establishment Act, 1946.
- **Composition** - CBI is headed by a Director and assisted by a special director or an additional director.
- **Search committee** - CBI Director is appointed by search committee headed by the Prime Minister and comprising Leader of Opposition and the Chief Justice of India (CJI) or his representative.
- **Investigation** - CBI can conduct investigation in a state only with the consent of the concerned state government. There are **2 kinds of consent of States - Case-specific consent and General consent**.
- However, the Supreme Court and High Courts can order CBI to investigate such a crime anywhere in the country without the consent of the State.
- **Functions** - CBI is the **main investigating agency of the Central Government**. Plays an important role in the **prevention of corruption and maintaining integrity in administration**. Investigates crime of corruption, economic offences and serious and organized crime other than terrorism.
- Provides assistance to the Central Vigilance Commission and Lokpal.
- **Nodal police agency in India**, which coordinates investigation on behalf of Interpol Member countries



#### Issues with CBI:

- **Political Interference:** The **Supreme Court of India** has criticised the CBI by calling it a "caged parrot speaking in its master's voice", due to **excessive political interference** in its functioning.
- **Delayed Investigations:** It has been accused of **enormous delays in concluding investigations** - For example, the inertia in its probe against the high dignitaries in Jain hawala diaries case [of the 1990s].
- **Loss of Credibility:** Mismanagement of several cases involving prominent politicians and mishandling of several sensitive cases like **Bofors scandal, Hawala scandal, Sant Singh Chatwal case, Bhopal gas tragedy, 2008 Noida double murder case (Aarushi Talwar)**.
- **Lack of Accountability:** CBI is **exempted from the provisions of the Right to Information Act**, thus, lacking public accountability.
- **Acute shortage of personnel:** A system of inefficient, and biased, recruitment policies - used to bring in favoured officers, to the detriment of the organisation.
- **Limited Powers:** The **powers and jurisdiction of members of the CBI for investigation are subject to the consent of the State Govt.**, thus limiting the extent of investigation by CBI.
- **Restricted Access:** Prior approval of Central Government to conduct inquiry or investigation on the employees of the Central Government, of the level of Joint Secretary and above is a big obstacle in combating corruption at higher levels of bureaucracy.
- CBI's conviction of cases rate has come down while its pendency in courts has risen

- **Lack of support from state government** – 9 states have withdrawn general consent to the CBI
- Lack of **social legitimacy and public trust**
- The **advent of Lokpal diluted the powers of CBI**
- **Structural constraints** - To prosecute any MLA or state minister, the CBI needs sanction from the Speaker of the state Assembly or the Governor respectively. In the case of an MP, sanction is sought from the Speaker of Lok Sabha or Vice Chairman of Rajya Sabha.

#### Way Forward

- Delink the CBI from the administrative control of the government
- **Providing statutory status to CBI**
- **24<sup>th</sup> report of Department related parliamentary standing committee on personnel, public grievances, law and justice on working of CBI recommended the following:**
  - Strengthening human resources by increasing strength of CBI,
  - Better investments in infrastructural facilities,
  - Increased financial resource and administrative empowerment with accountability,
  - Give more Powers to the CBI
- In 1978, the **L P Singh Committee** recommended **enactment of a “comprehensive central legislation”**
- The **Second Administrative Reforms Commission (2007)** also suggested that “a new law should be enacted to govern the working of the CBI”

## 2. Amendments to IT Rules, 2021

Recently, the Indian government introduced a new amendment to **the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, or IT Rules**, which gives the Ministry of Electronics and Information Technology (MeitY) **unrestricted power to create a "fact check unit" to identify false or misleading online content.**

#### What are the IT Rules?

- The IT Rules derive their authority from the Information Technology Act, 2000, which provides legal recognition for electronic commerce.
- **Safe Harbour Provision:** The Act provides a "safe harbour" for intermediaries that observe due diligence in discharging their duties and follow guidelines prescribed by the state.
- **Intermediaries: Section 79** of the Act grants immunity to intermediaries, as long as they follow due diligence and state-prescribed guidelines.
- Intermediaries include social media platforms like **WhatsApp, Twitter, Facebook, and Instagram.**
- **First Originator:** The IT Rules impose obligations on intermediaries and require social media platforms to provide technological solutions to identify the first originator of any information on their service, under certain circumstances.
- The IT Rules have been subject to several sets of challenges, and petitions are pending consideration in the Supreme Court of India.

#### What are the New Regulations?

- The **2021 IT Rules** replaced the previous guidelines and sought to **regulate intermediaries and digital news media.**
- Social media platforms were required to provide technological solutions to identify the first originator of any information, risking privacy.
- The amendments introduced in **April 2023** give the Government power to decide for itself what **information is bogus and exercise wide-ranging powers of censorship by compelling intermediaries to take down posts deemed fake or false.**
- The new regulations **threaten freedom of speech and civil liberties in India** by restricting speech through executive order rather than legislation.



- **Article 19(1)(a)** of the Indian Constitution **grants every citizen the right to freedom of speech and expression**, which can only be limited through reasonable restrictions made by law on the grounds stipulated in Article 19(2).
- Fake news and misinformation are not grounds on which speech can be limited, and the amendments made to the IT Rules do not caveat the restraints they place in any manner.
- **The Fact Check Unit** has limitless powers to decide what **information is false and compel social media intermediaries to act based on these findings**, which are open-ended and undefined.

#### Way Forward

- **Lacks Clear Definitions:** The amendment **fails to define fake news** and allows the Government's fact-check unit to **declare the veracity of any news "in respect of any business" that involves the state**.
- The use of undefined words, especially the phrase "any business", gives the Government unchecked power to decide what people can see, hear, and read on the internet.
- **Not a Standard Practice:** A comprehensive parliamentary legislation on fake news, grounded in Article 19(2), would have been a more constitutionally committed campaign against fake news.
- In **France**, an **independent judge** is responsible for making declarations **to counter the spread of misinformation during elections**.
- **Removable of Information:** Intermediaries will remove information deemed false by the **Fact Check Unit**, leaving only the state to determine what is true.
- The new regulation gives the **Government the power to decide what information is bogus** and exercise censorship by compelling intermediaries to take down posts deemed fake or false.
- **Lesser Rights:** The rights of the press and individuals to question authority and speak truth to power will be diminished, and civil liberties will be curtailed.
- **Violates the Supreme Court's Judgment: Shreya Singhal vs Union of India (2015)**, Supreme Court held that a **law that limits speech can neither be vague nor over-broad**.

### 3. Online Dispute Redressal in India

#### Why in news?

Union Law Minister, in a recent event held in Delhi International Arbitration Centre, emphasized the need for **institutional arbitration to enhance the ease of doing business**.

#### What is Arbitration?

- It is a **legal technique for the resolution of dispute outside the courts**.
- It **allows parties to avoid the normal lengthy recourse to the local courts** for settlement of disputes.
- It is a **part of the Alternative Dispute Resolution (ADR) mechanism**.
- The Indian arbitration is governed and regulated by the **Arbitration and Conciliation Act 1996**.
- The Act derives its basis from the **1985 UNCITRAL Model on International Commercial Arbitration** and the **UNCITRAL Arbitration Rules of 1976**.

#### Types of Arbitration

Institutional Arbitration	Ad Hoc Arbitration
When an <b>arbitral Institution</b> conducts <b>arbitration</b> it is called as <b>Institutional Arbitration</b> . <b>Example</b> - Delhi International Arbitration Centre, International Arbitration and Mediation Centre (IAMC).	When the <b>parties agree among themselves and arrange for arbitration</b> , it is called <b>Ad hoc Arbitration</b> . Ad hoc Arbitration has <b>no institutional proceeding</b> . It can either be <b>domestic, international or foreign arbitration</b> .

## What are the advantages and disadvantages of ODR?

### Advantages

- Reduce the burden on the courts
- Saves time, litigation costs, and provide effective resolutions.
- Encourages **consensual** rather than an **adversarial approach**
- Geographical limitation can be avoided through ODR

### Disadvantages

- Impersonal, leading to greater distance between the parties and mediator.
- Inaccessible due to lack of infrastructure for technology
- Lack of protection of confidential material in ODR

## Why India has to focus on arbitration?

- **Preferred choice** - As more countries entered into bilateral investment treaties, **institutional arbitration became the preferred choice.**
- **Ease of doing business** - Despite its tremendous improvement in the World Bank's Ease of Doing Business report, **India ranked 163rd, in Enforcing Contracts category.**
- **Unfriendly legislation** - Although India introduced its **arbitration legislation in 1996**, it acquired a **reputation of being 'arbitration-unfriendly'**.

India's Ease of doing business ranking improves from **142 in 2014 to 63 in 2019**

## What are the challenges in India?

- **Conventional thinking:** Reliance on courts rather than alternate dispute resolution mechanisms like arbitration.
- **Lack of comprehensive laws:** While the **Arbitration and Conciliation Act, 1996** governs arbitration in India, there is a **need for more comprehensive and well-defined laws** to cater to the **requirements of business houses** dealing with arbitration proceedings.
- **Intervention of courts:** Court intervention during arbitral proceedings and the scope for challenging arbitral awards under **Section 34 of the Arbitration Act, 1996** have made people more inclined towards the judicial system.
- **Lack of awareness:** There is a **lack of awareness among the public**, particularly small-scale businessmen and newcomers, about the **availability of arbitration as an effective dispute resolution mechanism.**
- **Delays in arbitration:** Arbitration proceedings in India can be **plagued by delays**, particularly **due to the heavy workload of courts** and the limited availability of arbitrators.
- **Enforceability of awards:** The enforceability of arbitral awards in India has been a longstanding issue, with **delays and challenges in enforcement proceedings** adding to the reluctance of parties to choose arbitration as a means of resolving disputes.

## Challenges particular to institutional arbitration in India:

- Issues relating to **administration and management of arbitral institutions.**
- Perceptions regarding arbitrators and expertise issues **relating to resources and government support, lack of initial capital, poor and inadequate infrastructure, lack of properly trained administrative staff, lack of qualified arbitrators.**

## What are the measures taken so far?

- **The Arbitration and Conciliation (Amendment) Act, 2015** - To make arbitration process user **friendly, cost effective and ensure speedy disposal** and neutrality of arbitrators. It amended the Arbitration and Conciliation Act 1996.
- **B.N. Srikrishna committee** - To prepare a **road map to make India a hub of international arbitration.** It recommended the creation of the **post of an International law adviser (ILA)** to advise the government on international legal disputes, particularly Bilateral Investment Trade disputes.

- **New Delhi International Arbitration Centre** - It is an **independent and autonomous body for facilitating institutional arbitration**.
- Established by the **New Delhi International Arbitration Centre Act, 2019**.
- **The Arbitration and Conciliation (Amendment) Act 2019** – It provides for establishment of the Arbitration Council of India.
- **Arbitration Council of India** - It will frame, review and update norms to ensure satisfactory levels of arbitration.
- It will also frame policies governing the grading of arbitral institutions.

#### How India can be made an arbitration hub?

- **Incentivise** - Incentivise the **use of ODR by way of legislative measures**.
- **Infrastructure** - Create infrastructure **to curb the digital divide, and catalyse ODR's growth** by optimising existing setups such as **Aadhaar kendras** to also function as ODR kiosks.
- **Dedicated fund** - On the lines of e-Courts project (aimed at digitising the justice system), a dedicated fund must be set up for furthering ODR.
- **Increase trust** - **Proactive use of ODR as a grievance redress mechanism** by Government departments will increase the trust in the process.

## 4. State of extra-judicial killings in India

### Why in news?

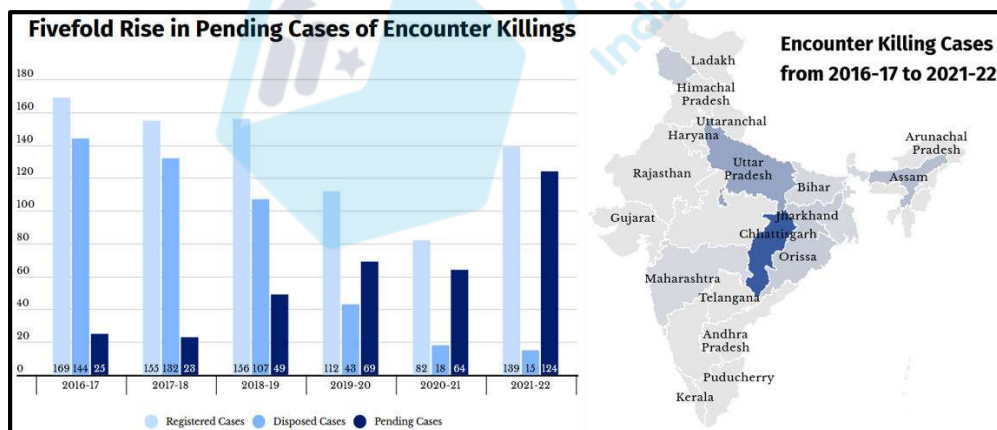
The **Uttar Pradesh Special Task Force** has recently encountered two persons who were wanted in connection with the **Umesh Pal murder case**.

### What are extra judicial killings?

- It refers to the **deliberate, unlawful killings of an accused person by any Government authority outside of any legal framework**. (Popularly known as “encounters”).

### What is the status of extra-judicial killings in India?

- According to a report, for the **last 6 years the cases of encounter killings have increased nearly five-fold**.
- India has seen a **15% decline in registration of encounter killing cases** in the six years between 2016-17 and 2021-22.
- The cases shot up **by 69.5% in the last two years** from 2021-22 to arch 2022.



### Reasons for extra-judicial killings

- **Public support** - People often support these **extra-judicial killings** because they think that the **court will not provide timely justice**.
- **Political support** - Extra-judicial killings are **considered as achievements of ruling political party** and gather greater support from the public.

- **Work pressure** - Pressure from **Government** as well as **Public in important cases** results in **brutal behaviour by the police on criminals** for getting information or to get their confession.
- **Punitive violence** - Many police officials believe that the only way to control the crime and criminals is **to torture the criminals** so that people should have a **state of fear in their mind when they are about to commit a crime**.
- **Positive re-enforcement** - The officers executing these killings are **considered heroes in society** as the public thinks such killings to be the best way of cleaning up society.
- **Lack of proper training** - Absence of legitimate preparation of police authorities regularly increases the **third-degree techniques**.
- **Inefficiency of police** - **Encounters are an easy way to create an image**, that law and order are being maintained in the area.

#### Legislative status in India

- **Legislation** - No law in India exclusively defines encounter killings.
- But it will be classified under **Cases Registered against State Police Personnel for Human Right Violation in the National Crime Records Bureau (NCRB)**.
- **Indian Penal Code** - Sections **from 96-106 of Indian Penal Code, 1860** deals with the Right to Private Defence.
- Under these sections, **death in an encounter will not amount to a criminal offence**, when it is done as **self-defence**.
- **CrPC - Section 46 of the Criminal Procedure Code (CrPC), 1973** allows the police officers to use any **degree of force which is required to arrest the accused** or prevent the accused from escaping.
- **Supreme Court** – In 2014, the Supreme court in the People’s Union for Civil Liberties Vs State of Maharashtra case formulated **16-point guidelines on extra-judicial killings**.
- **National human Rights Commission** – In 1997, the **National Human Rights Commission (NHRC) under the Chairmanship of Justice MN Venkatachaliah** issued a guideline for encounter cases.

The **Supreme Court in Om Prakash Vs State of Jharkhand (2012)** stated that **extra-judicial killings are not recognized as legal** by our criminal justice administration system and they amount to **State sponsored terrorism**

#### What are the guidelines provided by the Supreme Court and the NHRC?

- **16-point guidelines** - In People’s Union for Civil Liberties vs State of Maharashtra, 2014, the Supreme court provided 16-point guidelines to be followed during investigation of police encounters.

#### The guidelines included the

- Mandatory registration of FIR
- Provisions for magisterial inquiry
- Keeping the written records of intelligence inputs
- Independent investigation by bodies such as the CID.

The court directed that these norms must be strictly observed as a law declared under **Article 141 of the Indian Constitution**.

- Prior to the Supreme court guidelines, the **National Human Rights Commission (NHRC) under the Chairmanship of Justice MN Venkatachaliah issued a guideline for encounter cases in 1997**. It deals with the procedure to be followed, obligation of states, compensation to be awarded, etc.

#### What are the steps to be taken?

- **Mandatory FIR** - To make amendments in CrPC to provide for mandatory registration of FIR where a **public servant causes death of a person in self-defense**.
- **UN Convention against Torture** - India should take immediate measures to ratify **UN Convention against Torture and the enactment of Prevention of Torture Bill, 2017**.



- **Implementation** – Ensure the strict implementation and monitoring of Supreme Court and the NHRC guidelines on fake encounter deaths.
- **Training Programme** - Training the police officials to handle every unforeseen situation and protect the accused in police custody is essential.

## 5. Maternity Benefits to Adoptive Mothers

### Why in news?

Recently, the Supreme Court has agreed to hear a **Public Interest Litigation (PIL) which challenges the Section 5(4) of the Maternity Benefit Act, 1961 of being discriminatory on adoptive mothers**

### What is the section 5(4) of Maternity Benefits (Amendment) Act, 2017?

- **Sec 5(4) was not in the original act of 1961** and was later inserted in the amendment act, 2017.
- It states that a **woman who legally adopts a child below the age of 3 months** or a **commissioning mother** shall be **entitled to maternity benefit for 12 weeks**.
- Commissioning mother **refers to a surrogate mother** and has been **defined as a biological mother who uses her egg to create an embryo** implanted in any other woman
- Under the act, a **woman adopting a child older than 3 months gets no benefits**

### What are the issues with Sec 5(4)?

- **Adoptive mothers** - It is **discriminatory and arbitrary towards mothers** who adopt children above the age of 3 months.
- **Orphaned Children** - It is **discriminatory against the orphaned, abandoned or surrendered children** above the age of three months.
- **Discriminatory** - The act **allow 26 weeks of paid leave for biological mothers** whereas **only 12 weeks for adopted mothers**.
- **Incompatibility** - It is **incompatible to the objective of the Maternity Benefit Act** as well as the **Juvenile Justice Act, 2015**.
- **Adoption procedure** - Due to the **prevailing delays in adoption procedure**, it is almost impossible for a mother to adopt a child less than 3 months old.

### What is the Maternity Benefits (Amendment) Act, 2017?

- It **extends women's paid maternity leave from 12 to 26 weeks**.
- Of these, **up to 8 weeks can be taken pre-delivery**.
- Enterprises with 50 or more employees must provide **crèches**.
- They should **allow the mother 4 crèche visits, daily**.
- The **costs** of these benefits are to be borne **solely by employers**.
- It **allows women to work from home** after availing the maternity leave.
- Women with 2 or more children get reduced entitlements.

### What are the concerns with the Act?

- **Unorganised sector** - The Maternity Benefits Act, 2017 **does not apply to the unorganised sector**.
- Around **93% Indian women** workers are in the **informal sector**.
- **Cost** - The high costs of maternity leave drive companies to **discriminate against women in higher-level jobs**.
- **Childcare** - Childcare is **treated solely as women's responsibility**.
- In India, Central Government employees get only **15 days of paternity leave**.
- **Reduced roles** - A woman returning to work after a **gap year** due to maternity has to **reconcile to reduced roles**.

### What could be done?

- **Gap management structure** - Organizations need to build a **gap management structure** to handle maternity breaks.

- **Incentive to Employers** - Give employers an incentive to hire more women in form of **tax benefits, or women centric schemes**.
- **Attitudinal shift** - For true integration and inclusiveness of women at all levels, **there needs to be an attitudinal shift and a reorientation of government policies** at the implementation level.
- **Fund for women** – The Centre promises to set up a fund for women in the unorganised sector under **the Code of Social Security, 2020**.
- State governments should also set up and administer separate social security funds for unorganised workers.
- **Gender parity** - Men and women have to shoulder the responsibility of child care roles.
- **Economic right** - Redefine **maternity as a fundamental economic right** because women are bringing the nation's future workforce.

## 6. NCPDR Guidelines for Juvenile Crimes

### Why in news?

National Commission for Protection of Children issued guidelines for trying a **juvenile as an adult in case of heinous crimes**.

### How does a juvenile get tried as an adult?

- **3 categories of offences** - The Juvenile Justice Act 2015 (JJ Act, 2015) has categorized the offences committed by children into three categories which are **Petty offences, Serious offences and Heinous offences**.
- **Section 15 of the JJ Act (2015)** - In case of a heinous offence against a child, who is or **above the age of 16, the juvenile justice board shall conduct a preliminary assessment**.
- **Preliminary assessment** - To test the **mental and physical capacity of juvenile** and his/her ability to conduct a crime should be assessed.
- **Sole objective preliminary assessment** is to determine whether a child within the age group of 16-18 years should be **tried as an adult in case of heinous offences**.
- **Section 18 (3) of JJ act (2015)** - After the preliminary assessment if there is a **need for trying children as adult** then the case is transferred to children's court.
- **Regular jail at 21** - If the juvenile is found guilty and sentenced he/she will **only be transferred to a regular jail to be tried as an adult at the age of 21**.

### Role of juvenile justice Board (JJB)

- **Preliminary assessment** - Juvenile justice Board (JJB) shall be **responsible for the preliminary assessment** and provide the child, the child's family, and their counsel a copy of the order.
- **Degree in child psychology or child psychiatry** - The board need to have a member who is a practicing professional with a degree in child psychology or child psychiatry.
- In case of absence of such a member the Board shall **take the assistance of psychologists or experts** who have the **experience of working with children in difficult times**.
- **Legal aid counsel** - Should be provided to child through **District Legal Services Authority**. Legal aid counsel should be present during the preliminary assessment.
- **Training** - Under the **section 15 of the JJ act 2015** training is mandate for the experts who assist the JJB.
- **Probation officer or Child Welfare Officer** - After the interaction with the child or child's family, a **Social Investigation Report (SIR) should be prepared**.

### Statistics

- According to the **National Crime Records Bureau (NCRB)**, since it started recording these crimes in 2017, they had **risen by over 700 percent by 2019**.
- The NCRB in 2017 recorded **278 cases of crimes committed by CCI in-charges across India involving 328 child victims**. These cases rose to 1,968 by 2019, involving as many as 2,699 child victims.

**Beijing rules and Riyadh guidelines** are international instruments that **recognize child rights**.

## Way Forward

- Since the guidelines have been made to remove any ambiguity and to clarify the steps involving preliminary assessment the **errors of trying innocent juvenile as an adult will be minimized**.
- The absorption of these principles in the system needs to be **monitored by NCPDR**.
- The principles in the guidelines needs to be given **due importance by JJB and children's court**.

## 7. Rights of Persons with Disabilities (PWDs)

### Why in news?

India has an estimated **70 million PWDs**, making it one of the countries with the **largest disabled populations globally**, however, the country only has 100 lawyers per lakh and only a few among them specialise in disability law.

### What is the Rights of Persons with Disabilities Act, 2016 about?

- **India's Rights of Persons with Disabilities Act of 2016** is a vital law that intends to secure and advance the rights of persons with disabilities.
- The **Act replaces the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995**.
- **UNCRPD** – It fulfils the obligations to the United National Convention on the Rights of Persons with Disabilities (UNCRPD), to which **India is a signatory**.
- According to the law, **disability has been based on an evolving and dynamic concept**.

### Features

- The **types of disabilities have been increased from existing 7 to 21** and the Central Government will have the power to add more types of disabilities.
- **The 21 disabilities are given below:-**
- **Physical Disability** – Locomotor Disability; Leprosy Cured Person; Cerebral Palsy; Dwarfism; Muscular Dystrophy; Acid Attack Victims; Visual Impairment (Blindness; Low Vision); Hearing Impairment (Deaf; Hard of Hearing); Speech and Language Disability.
- **Intellectual Disability** – Specific Learning Disabilities; Autism Spectrum Disorder.
- **Mental Behaviour** – Mental Illness
- **Disability caused due to** – Chronic Neurological Conditions (Multiple Sclerosis; Parkinson's disease); Blood Disorder (Haemophilia; Thalassaemia; Sickle Cell Disease) and other Multiple Disabilities.
- **Persons with benchmark disabilities** are defined as those **certified to have at least 40% of the disabilities specified above**.

### Rights and entitlements

- **Reservation** – In **higher education** (not less than 5%), **Government jobs** (not less than 4%), reservation in allocation of land, poverty alleviation schemes (5% allotment) etc. have been provided.
- Government funded/recognized educational institutions will have to **provide inclusive education to the children with disabilities**.
- **Free education** – Every child with benchmark disability between the **age group of 6 and 18 years** shall have the right to free education.

### What is the UN Convention on the Rights of Persons with Disabilities (UNCRPD) about?

- The **UN Convention on the Rights of Persons with Disabilities** is an international human rights treaty dealing with the rights of disabled people.
- It was **adopted in 2006 in the New York headquarters of the United Nations** and entered into force in 2008.
- Currently, the **convention has received 177 ratifications**.
- **The UNCRPD is aimed at:**

- Ending discrimination against persons with disabilities.
- Enabling persons with disabilities to live independently.
- Making the education system more inclusive.
- Making sure persons with disabilities are protected against all forms of abuse, violence and exploitation.
- **India is a signatory to the convention.**

#### What are the challenges associated with the PWDs?

- **Barrier to justice** – The **lack of legal/para-legal professionals** creates a barrier to justice for PWDs, who struggle to access their entitlements under the **Rights of Persons with Disabilities Act**.
- The shortage of trained para-legal professionals is a challenge, with only **a fraction of the 100,000 para-legal volunteers in India receiving training on disability law**.
- **Lack of course** – According to a survey conducted by the National Centre for Promotion of Employment for Disabled People (NCPEDP), only **10% of law colleges in India offer courses on disability law**.
- **Prejudice** – Disability law is not given the same level of importance as other branches of law, and the Act itself being a relatively new legal framework.
- **Lack of awareness** – The **lack of awareness about the rights of PWDs** is among both the public and legal professionals.
- This **lack of awareness and expertise** could result in **inadequate representation for PWDs**, leading to **further marginalisation and discrimination**.

#### Way Forward

- **Mandatory** – There is a **need to include the Rights of Persons with Disabilities Act** as a **mandatory subject** in law colleges.
- **Training** – Training should focus on building a **comprehensive understanding of the Act** and its provisions, as well as **practical skills in advocacy and representation for PWDs**.
- This will help in ensuring that **legal professionals and para-legal volunteers are trained in disability law** and are better equipped to represent PWDs.
- Investing in the **training of legal and para-legal professionals in disability law** has economic and social benefits

## 8. Yemen civil war

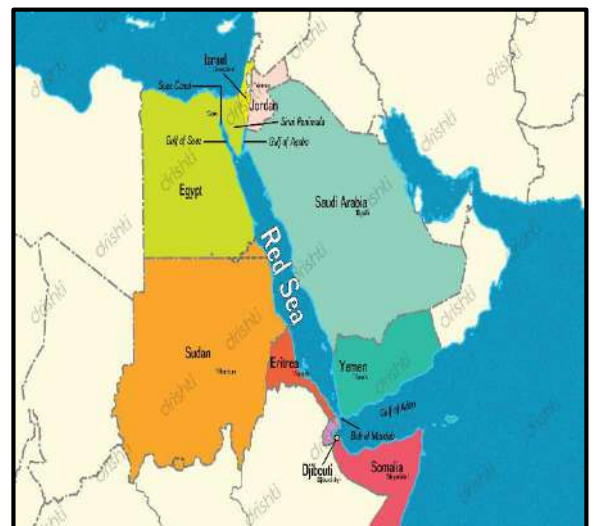
### Why in News?

The warring sides in Yemen are swapping hundreds of prisoners - a move which has built hopes for a permanent ceasefire between the **Saudi-backed government forces** and the **Iranian-backed Houthi rebels**.

### How did the War in Yemen Begin?

- The Yemeni Civil War **began in 2011 after the ousting of authoritarian president Ali Abdullah Saleh**. The new President, Abdrabbuh Mansour Hadi, was unable to stabilize the country due to economic and security problems.
- The **Houthis, a Zaidi Shia Muslim minority group**, took advantage of this and seized control of the north and the capital, **Sanaa in 2014**.
- This alarmed Saudi Arabia, which feared that the **Houthis would become allies to their rival, Iran**. Saudi Arabia then led a coalition that included other Arab countries and sent troops to **Yemen in 2015**. However, they were unable to drive out Houthis from Sana'a as well as from the north of the country.
- In April 2022, the **UN brokered a ceasefire between the Saudi-led coalition and the Houthi rebels**, though the sides failed to renew it six months later.

### What is the Stockholm Agreement?





The warring parties in control of parts of Yemen had signed the **Stockholm Agreement in December 2018**, committing to freeing conflict-related detainees.

**The agreement brokered by the United Nations had three main components:**

1. **The Hudayah agreement:** The Hudayah agreement included a **ceasefire in the city of Hodeidah** and other clauses like **no military reinforcements** in the city and strengthened United Nation presence
2. **The Prisoner Exchange Agreement:** The agreement was supervised by the **Office of the Special Envoy of the Secretary-General for Yemen, and the International Committee of the Red Cross** will oversee and facilitate the process. They aim to ensure that fundamental humanitarian principles and procedures that facilitate the release, or transfer or repatriation of all persons who were deprived of their liberty during the events in Yemen.
3. **Taiz Agreement:** The Taiz agreement includes the **formation of a joint committee** with participation from **civil society and the UN**.

**How has this War Affected Yemen?**

According to the UN, **Yemen is now the largest humanitarian crisis in the world**, with 80% of its population dependent on aid and protection. Over **three million people have been displaced from their homes since 2015**, and public service sectors like healthcare, water, sanitation, and education have either collapsed or are in a dire situation.

**Economically, Yemen is in the trenches, having lost USD 90 billion in economic output**, and more than 6,00,000 people have lost their jobs. More than half of the country's population is living in extreme poverty.



**What are the Concerns for India and the World in the Yemen Crisis?**

**Global:** Yemen's location at the strait linking the Red Sea with the Gulf of Aden is **critical for global oil shipments**, raising concerns about the impact of the conflict on global oil prices.

The **presence of groups like al-Qaeda and IS affiliates in Yemen** poses a risk to global security.

**India:** Yemen is a **major source of crude oil** for India, and any disruption to the oil supply chain could have a significant impact on India's energy security. The large population of Indian expats in Yemen, Saudi Arabia, Iran presents a significant challenge for India. India has a responsibility to ensure the safety and security of its citizens and manage the impact of any disruption to remittances, which are a significant source of income for many families in India.

**What are India's Initiatives?**

**Operation Rahat:** India launched a **massive air and sea operation to evacuate over 4000 Indian nationals from Yemen in April 2015**.

**Humanitarian Assistance:** India has provided food and medical aid to Yemen in the past and thousands of Yemeni nationals have availed of medical treatment in India over the past few years. India also continues to facilitate education of a large number of Yemeni nationals in various Indian institutions.

## 9. China's Diplomacy in Central Asia

**Why in news?**

The **China and the five Central Asian republics (C+C5) grouping** trade meeting indicated the growing diplomatic ties of china with Central Asia region.

**What is the status of China's relation with Central Asia?**

- **Ancient Silk Route** - Provided trade, cultural, and people-to-people links with the Central Asian region with China historically.
- **Break-up of the Soviet Union** - This gave an opportunity to China to formalize the ties with Central Asia.
- **Shanghai Cooperation Organization (SCO)** - China's relationship with the region was institutionalized with SCO.
- **Trade route** - The central Asia provided trade route to Europe for China.
- **Chinese investments** - Have helped to upgrade Soviet-era infrastructure and carry out development works in these countries.
- **Belt and Road Initiative** - There are **51 BRI projects** located in the region, which provides **transit hub for China's trade with Europe**.
- **C+C5 summit** - A grouping of China + Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, and Kyrgyzstan.
- This summit is the **latest development of series of Chinese engagement with Central Asia**.

#### What is the status of India's relation with Central Asia?

- **Summit of the C5** - Prime Minister Narendra Modi hosted a virtual summit of the C5 in 2022.
- India's first engagement with the Central Asian nations collectively at the highest level.
- **Shanghai Cooperation Organization (SCO)** - India being one of the member of SCO influence its decision on the region which are mostly related to security concerns.
- **Chabahar port** - Provides the trading route via sea.
- **Air corridors** - India should try the air corridors to overcome the hurdles of land route.

#### What are the challenges to India's relation with Central Asia?

- Non availability of land trade route since its access being denied by Pakistan
- Even though **Chabahar port provide sea trade it is not fully developed yet**
- The Central Asia have well established relationship with China and Russia leaving less room for India
- Even though India a member of SCO its decision are limited to security concerns

## 10. Japan in Indo-Pacific Geopolitics

### Why in news?

The recent visit of Japanese Prime Minister to India reinforces the **centrality of Japan in the emerging geopolitics of the Indo-Pacific**.

### How about India-Japan relationship?

- **Buddhism** - Exchange between Japan and India is said to have begun in the **6th century** when **Buddhism was introduced to Japan**.
- **Peace treaty** - Japan and India signed a **peace treaty and established diplomatic relations on 28th April 1952**.
- This treaty was **one of the first peace treaties Japan signed after World War II**.
- **Yen loans** - Japan started providing yen loans to India in 1958 as the first yen loan aid extended by Japanese government.
- **Global Partnership between Japan and India** - Established by **Prime Minister Atal Bihari Vajpayee in 2000**.
- **Japan-India Annual Summit** - Since **April 2005 Japan-India annual summit meetings** have been held in respective capitals.
- **Global and Strategic Partnership** - Japan-India relationship was elevated to **the Global and Strategic Partnership when Prime Minister Manmohan Singh visited Japan in December 2006**.

2012	<ul style="list-style-type: none"> <li>• Prime Minister Shinzo Abe re-elected for his second premiership</li> <li>• India and Japan first joint naval exercise or JIMEX</li> </ul>
2013	<ul style="list-style-type: none"> <li>• Then Prime Minister Manmohan Singh visited Japan</li> <li>• India planned on buying US-2 amphibious aircraft from Japan</li> </ul>
2014	<ul style="list-style-type: none"> <li>• Prime Minister Narendra Modi elected as India's new prime minister</li> <li>• Prime Minister Modi's first visit to Japan</li> <li>• India-Japan relations elevated to Special Strategic and Global Partnership</li> </ul>
2015	<ul style="list-style-type: none"> <li>• Prime Minister Abe visited India</li> <li>• Inclusion of Japan as permanent member in Malabar Exercise</li> <li>• Establishment of India and Japan Vision 2025</li> </ul>
2016	<ul style="list-style-type: none"> <li>• Prime Minister Modi visited Japan for the second time</li> <li>• Japan introduced the Free and Open Indo-Pacific Strategy</li> <li>• Japan to invest in building infrastructure in India Andaman and Nicobar Islands</li> </ul>
2017	<ul style="list-style-type: none"> <li>• Prime Minister Abe visited India to align India and Japan strategic policies</li> <li>• India and Japan officially announced Asia-Africa Growth Corridor (AAGC)</li> <li>• First Quadrilateral meeting between India, Japan, Australia, and the United States since 2007</li> </ul>

- **Special Strategic and Global Partnership** - In 2014, the bilateral relationship was upgraded to Special Strategic and Global Partnership.

### What is Indo-Pacific Region?

- The Indo-Pacific region is a **geopolitical area** that spans **two regions of the Indian Ocean and the Pacific Ocean**.
- The region stretches from the **west coast of the United States to the west coast of India**.
- **The Indo-Pacific is a 24 nation’s regional framework** comprising the tropical waters of the Indian Ocean, the western and central Pacific Ocean, and the seas connecting the two in the general area of Indonesia.



### What is Japan’s New Plan for a Free and Open Indo-Pacific (FOIP)?

- **Rules-based order** -Lays stress on the need to uphold the **rules-based order and respect each other’s territorial sovereignty**
- **Guiding perspective** - Proposes a guiding perspective to be shared by the international community.
- **Cooperation and collaboration** - Work and embrace diverse voices and **create an atmosphere of cooperation and collaboration** rather than division and confrontation.
- **Rule-making through dialogue** - Should be encouraged for creating a cooperative atmosphere.
- **Like-minded countries** - Japan will work alongside other like-minded countries in the region with India being an indispensable partner.
- **Public and private funds** -Japan would mobilize a total of more than \$75 billion in public and private funds in the **Indo-Pacific region by 2030 in infrastructure development**.
- **Official development assistance (ODAS)** - Guidelines for ODA for the next 10 years and **introduce an “offer-type” cooperation** and a new framework for “private capital mobilization-type” grant aid.
- **Four pillars** -

Pillars	Objectives of the pillar
Principles for <b>peace and rules for prosperity</b>	As vulnerable countries usually suffer the most if there is <b>an erosion in the rule of law so Japan wants to engage in economic development programmes</b> of such countries.
Addressing challenges in an <b>Indo-Pacific way</b>	Expansion of cooperation for the FOIP by incorporating realistic and practical projects in a wide range of areas, such as <b>climate change, food security, global health and cybersecurity</b> .
<b>Multi-layered connectivity</b>	<b>Japan has identified three areas</b> introducing more such projects on Southeast Asia, south asia and the south pacific/pacific island countries.
Extending efforts for security and safe use of the <b>“sea” to the “air”</b>	Japan will help in strengthening the capabilities of maritime law enforcement agencies in other countries.

### What is the need for Japan’s New Plan for a Free and Open Indo-Pacific (FOIP)?

#### To address the following issues

- Russia-Ukraine war
- Growing Chinese assertiveness in the South China Sea
- Food security and cyber space privacy
- Ensuring the freedom of the seas

## 11. Troika for India's northeast region

### Why in news?

In the **third India-Japan Intellectual Dialogue in Agartala**, policymakers focused to bring the troika of Bangladesh, India and Japan closer.

### What is the role of Japan in north east region?

- Japan has historical ties with the North Eastern region of India.
- Japan attaches great importance to the **development of the region** in the **spirit of trust and friendship**.
- **Japan-North Eastern India relationship and cooperation**, aim at **promoting the intellectual interactions** between Japan and the North East.
- The cooperation can bring **new opportunities in empowering entrepreneurship** in agriculture/Bamboo sector and Fostering People to People Contact.

### What are the developments in north east regions connecting Bangladesh?

- **Matarbari Deep Sea Port (DSP)** - It is being constructed with **Japanese assistance** and is scheduled to be operational in 2027.
- The long term vision is for Bangladesh and the **northeast to become a hub and key industrial corridor of this region**.
- Located on the **southeastern coast of Bangladesh**.
- **Rapid industrialization** - To increase the connectivity of roads and railways by **Hiroshi Suzuki, Japan's Ambassador to India**.
- It also provides job opportunities and connects with Bangladesh.
- **Creating value chains and manufacturing products** - Should encompass diverse sectors such as
  - Agro-processing,
  - Man-made fibers,
  - Handicrafts,
  - Assembly of two-wheelers and
  - Mobile phones, and pharmaceuticals industries.



### What are the challenges to development of north east region?

- Japan being the **only investor in the region** is unworkable
- **Lack on Indian companies** taking part in the development of north east region
- Too much restrictions on the flow of investments from Bangladesh.
- **Lack of policy coordination among the governments of Bangladesh, India and Japan** on the development of north east

### Way Forward

- **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** is self-defeating and Bangladesh must move towards establishing the Bay of Bengal Community (BOBC).
- A **Bangladesh, India and Japan (BIJ) Forum** should be launched at the level of Foreign Ministers, for better coordination.
- The policies of north east and Bangladesh needs to be converged.

## 12. OPEC's Oil Output Cut

### Why in News?



The **Organization of the Petroleum Exporting Countries (OPEC)** and its allies, collectively known as **OPEC+**, announced a surprise reduction of 1.16 million barrels per day (bpd) in their oil production to support market stability.

### **What is the Background of Voluntary Cut in Oil Production?**

#### **Background:**

- Oil prices skyrocketed after the **Russia-Ukraine Conflict** and have been fluctuating in recent months, with a **drop towards USD 70 per barrel in March 2023** due to concerns of a global banking crisis that could hit demand.
- **Countries Involved:**
- Till yet, **Saudi Arabia, Iraq, UAE, Kuwait, Oman, Algeria, Kazakhstan, Russia and Gabon announced a voluntary oil output cut.**
- However, not all OPEC+ members are joining the voluntary cuts, as some are already pumping well below agreed levels due to a lack of production capacity.

### **What will be the Major Impacts of Voluntary Cut in Oil Production?**

- **Impact on the U.S:** The move is likely to be highly detrimental to the US, which has repeatedly asked the organisation to increase oil production.
- **Impact on Non-OPEC Countries:** The production cuts could have an **impact on non-OPEC countries that rely on oil exports**, as they may face increased competition in the market.
- **Impact on India:** **India imports nearly 85% of its crude requirement**, the oil import bill will rise on account of the rise in prices due to decreased production.
- **The rise in import bills will not only lead to inflation and a rise in the Current Account Deficit (CAD) and fiscal deficit** but also weaken the rupee against the dollar and hurt stock market sentiment.
- As per **Investment Information and Credit Rating Agency (ICRA)**, for every USD 10 per barrel increase in the price of the Indian crude oil basket, the CAD could widen by USD 14-USD 15 billion, or 0.4% of GDP.

### **What is OPEC+?**

**OPEC:** Established in **1960** by founding members **Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**, OPEC has since expanded and **now has 13 member states.**

**Member countries are:** Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, Venezuela.

**Headquarter:** Vienna, Austria.

**OPEC produces about 40% of the world's crude oil** and its members' exports make up around 60% of global petroleum trade.

**OPEC+:** In **2016**, with the **addition of another 10 allied major oil-producing countries**, the OPEC is known as **OPEC+.**

**OPEC+ countries include 13 OPEC member countries** and Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

### **Objective:**

The objective of the organisation is **to coordinate and unify the petroleum policies of its Member Countries** and ensure the **stabilisation of oil markets in order to secure an efficient, economic and regular supply of petroleum to consumers**, a steady income to producers and a fair return on capital for those investing in the petroleum industry.

## GS 3

### 1. UNGA Resolution and Its Impacts on Climate Change

#### Why in news?

Recently, **United Nations General Assembly (UNGA)** passed a **resolution asking the ICJ to give an advisory opinion about obligations of countries to protect people from climate extremities based on the promises they have made to the UNFCCC.**

#### How vulnerable are countries to climate change?

**According to German Watch Institute, Japan, Philippines and Germany and small island nations are the most affected countries by climate change today.**

- According to Emissions Gap Report 2022
- The world must **cut emissions by 45% to avoid global catastrophe**
- The world is far off track to **limiting global warming to 1.5°C** the most-ambitious target set out by the **Paris Agreement.**

#### What is the resolution about?

- The resolution was passed by the **Pacific Island of Vanuatu** and supporters that was devastated by **Cyclone Pam in 2015.**
- It prepared the draft resolution that was eventually **co-sponsored by 132 countries at the UNGA** and went through without a vote.
- The draft resolution **invoked Article 96 of the U.N. Charter** to ask the ICJ to deliberate on two questions
  - What are the obligations of states under international law to ensure the protection of the climate system
- What are the legal consequences under these obligations for states that have caused significant harm to the climate system, particularly for Small Island Developing States (SIDS)



The resolution **refers to several international protocols including the Paris Agreement (2015), the United Nations Convention on the Law of the Sea** and even the **Universal Declaration of Human Rights.**

#### What is India's position in the resolution?

- **India did not join** the majority of countries that co-sponsored the draft resolution.
- India is also watching **how global powers like the U.S. and China respond to the resolution.**
- Indian officials have said that **the ICJ process can only speak about climate change issues and problems broadly** and cannot name or profile any one country in the process.

#### What is the jurisdiction of international court of justice (ICJ)?

- ICJ is the **highest global court** recognized by all **193 UN members.**
- It is **composed of 15 judges** elected to **9 year terms of office** by the United Nations General Assembly and the Security Council.
- The **President and Vice-President** are elected by the Members of the Court **every three years by secret ballot.**
- The Court is not composed of representatives of governments.
- **There are two types of ICJ jurisdictions.**
  - **Contentious jurisdiction** - Resolving legal disputes between consenting states
  - **Advisory jurisdiction** - The UNGA, the Security Council and other specialized bodies of the organization can request the ICJ for an opinion on a legal question.

- The ICJ's advisory opinions are **non-binding but carries legal weight and moral authority**.
- **Advisory opinions** given in the past on the **Palestinian issue** (Construction of the Wall), **nuclear threats and on the dispute between the U.K. and Mauritius over the Chagos Islands** have been respected.

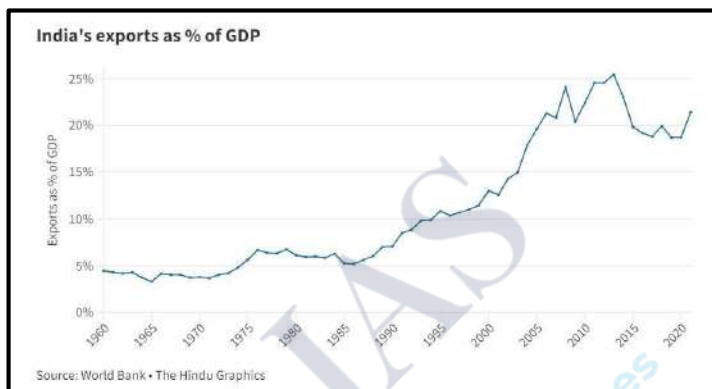
## 2. Foreign Trade Policy 2023

### Why in news?

Recently, Union Minister for Commerce & Industry, Consumer Affairs, Food & Public Distribution and Textiles has unveiled Foreign Trade Policy 2023.

### What is the need for the policy?

- To increase the export of India
- To be in compliance with WTO regulations
- To push MSMSE sector
- To include new sectors
- To address the grievances mechanisms



### What are the key features of Foreign Trade Policy (FTP) 2023?

- **Aim** -To almost **triple India's goods and services exports** to \$2 trillion by 2030.
- **Ease of doing business** -By **digitizing applications**, reducing timelines for processing applications and lowering transaction costs for exporters.
- **Merchanting trade** -FTP 2023 has allowed **Indian intermediaries to carry out merchanting trade involving the shipment of goods from one foreign country to another** without touching Indian ports.
- **Simplifying policies** -To facilitate **export of dual-use high-end goods and technology** such as UAVs [unmanned aerial vehicles], drones, cryogenic tanks and certain chemicals.
- **International trade settlement** -In the Indian Rupee (INR) granting benefits to those exports that are paid for via the rupee.
- **Special advance authorization scheme** -Launched for the clothing and apparel sector so that they can react to market demands and fashion trends faster.
- **Star ratings** -To recognize exporters will be available to lower qualification thresholds.
- **PM MITRA (Pradhan Mantri Mega Integrated Textile Region and Apparel)** -All PM MITRA parks to get benefits as common services providers.
- **Towns of Export Excellence (TEE)** -Towns producing goods of Rs 750 crore or more can be recognized as TEE based on the potential for growth in exports.
- TEE also get the **benefit of global recognition and brand credibility**.
- There were already **39 such TEEs in the country** and four new have been added to the list in FTP 23.

Towns	Products
Faridabad	Apparel
Moradabad	Handicrafts
Mirzapur	Handmade carpets
Varanasi	Handloom and handicrafts

- **Online trade** -Promoting **cross border trade in digital economy** including moves to facilitate the establishment of dedicated e-commerce export hubs.
- **E-commerce exports** -All FTP benefits are to be extended to e-commerce exports.
- **Creation of designated zones with warehousing facilities** to help e-commerce.
- **Input duty remissions** -Are being continued.

- **Status Holders** -The policy has reduced the threshold of minimum exports required for the recognition of exporters as Status Holders.
- Many smaller exporters can achieve higher status and avail benefits that will reduce transaction costs.
- **MSME**- Charges have been brought within ₹5,000 for MSME under the popular Advance Authorizations and Export Promotion Capital Goods (EPCG) scheme.
- **One-time amnesty** - A one-time amnesty has been offered, giving exporters more time to avail of both the AA and EPCG schemes.

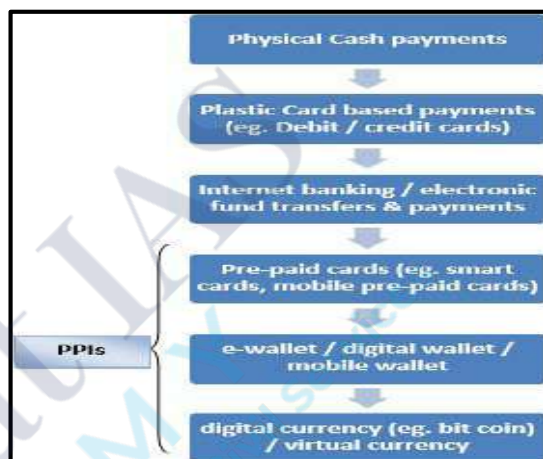
### 3. Prepaid Payment Instruments (PPIs)

#### Why in news?

Recently, National Payments Corporation of India (NPCI) has introduced **interchange fees of up to 1.1% on merchant UPI transactions done using prepaid payment instruments.**

#### What are Prepaid Payment Instruments (PPIs)?

- **PPI** - Prepaid payment instruments are payment instruments that facilitate purchase of goods and services against the value stored on such instruments.
- PPIs can **only be used in Indian rupees.**
- PPIs can be in the **form of mobile wallets, physical smart cards, secure tokens, vouchers** or any other method that allows access to prepaid funds.



Classification	Description
<b>Closed System Payment Instruments</b>	Generally issued by business establishments for use at their respective establishment only. Do not permit cash withdrawal or redemption. <b>RBI approval</b> is not required for issuing them. Eg. <b>Web portals for online shopping</b> - Make my Trip, Flipkart, etc. run wallets for its customers
<b>Semi-Closed System Payment Instruments</b>	Redeemable at a group of clearly identified merchant locations/ establishments which contract specifically with the issuer to accept the payment instrument. Do not permit cash withdrawal or redemption by the holder.
<b>Semi-open System Payment Instruments</b>	Used for purchase of goods and services at any card accepting merchant locations (Point of sale terminals). Do not permit cash withdrawal or redemption by the holder.
<b>Open System Payment Instruments</b>	Payment instruments which can be <b>used for purchase of goods and services</b> and also permit cash withdrawal at ATMs

- **Issuing PPI** - Banks and Non-Bank Finance Companies (NBFC), who comply with the eligibility criteria, would be permitted issue prepaid payment instruments.
- **Only banks which have been permitted to provide Mobile Banking Transactions** by the RBI shall be permitted to launch mobile based prepaid payment instruments (mobile wallets & mobile accounts).
- Other entities would be permitted to issue only closed system prepaid payment instruments and semi-closed system prepaid payment instruments.



**Mobile Prepaid Instruments** - The prepaid talk time issued by mobile service providers.

#### **What is PPI interoperability?**

- **Interoperability** – It is the technical compatibility that enables a payment system to be used in conjunction with other payment systems.
- **PPI interoperability through UPI** - After the RBI has mandated interoperability among different PPI issuers, they tied up with **National Payments Corporation of India (NPCI) for issuing**
- **Interoperable RuPay PPI cards** or
- Creating **interoperable wallets on UPI rails**
- The user can now **send/receive money to any other wallet user**. Similarly, a merchant with any UPI QR code can now accept payments from any PPI issuer or mobile wallet.
- **Advantages** - PPI on UPI will speed up the **growth of merchant transactions in rural areas** and further **deepen digital financial inclusion**.
- It will **enable universal acceptance of wallets across all UPI QR codes and devices**, thus increasing the salience or relevance of wallets.

#### **What are the recent changes made by NPCI?**

- The interchange rates vary according to **merchant category codes, in the range of 0.5% to 1.1%**.
- The charges are applicable if the transaction is more than Rs. 2,000.
- Charges are applicable only if a person have accepted or consented to the **transactions made using PPI Wallet** (No charge for merchant accepting UPI payments from a customer's bank account).
- It also include **charges for UPI-wallet-loading** that will be paid by wallet issuers to remitter banks or the bank accounts from which the amount is being debited.

#### **Interchange fee**

- It is a fee charged by the receiver bank/payment service provider to the merchant.
- The PPI owner will receive the applicable interchange fee from the merchant.
- The interchange fee is usually levied to cover the cost of accepting, processing and authorising the transaction.
- Users will not be charged for these transactions.

#### **What will be the impact of the change?**

- **On merchants** - Smaller merchants and shopkeepers are unlikely to be impacted as it is applicable only on payments of over Rs. 2,000.
- However, **MDR (merchant discount rate) is applicable on wallets on UPI** in certain cases and this move may lead to higher MDRs imposed on merchants.
- This may subsequently impact merchants' ability to absorb the higher costs.
- Currently, **MDR for bank-to-bank UPI transactions is zero**.

**On customers** - Officially there are **no charges to be paid by the customer**. However, merchants may pass on the additional burden to customers by way of price increases or some other means

A merchant discount rate, or MDR, is a **rate charged to a merchant for the payment processing of debit and credit card transactions**.

## **4. Laser Interferometer Gravitational-Wave Observatory (LIGO)**

### **Why in News?**

Recently, the Government approved the **construction of the Laser Interferometer Gravitational-Wave Observatory (LIGO) project** after seven years of in-principle approval.

It will be built by the **Department of Atomic Energy and the Department of Science and Technology** with the U.S. National Science Foundation and several national and international research institutions.

## What is LIGO-India Project?

### About:

- The project **aims to detect gravitational waves** from the universe.
- The Indian LIGO would **have two perpendicularly placed 4-km long vacuum chambers**, that constitute the most sensitive interferometers in the world.
- It is expected to begin **scientific runs from 2030**.

### Location:

It will be located in the **Hingoli district of Maharashtra**, about 450 km east of Mumbai.

### Purpose and Significance:

- It will be the **fifth node of the planned network** and will bring **India into a prestigious international scientific experiment**.
- It will **make India a unique platform** that brings together the frontiers of science and technology of the quantum and the cosmos.

### Benefits of LIGO-India:

- **The LIGO-India project** would have several spin-off benefits to Indian science, apart from making **India an integral part of one of the most prestigious international scientific experiments**.
- The observatory is expected to enable dramatic returns in astronomy and astrophysics, as well as leapfrog Indian science and technology in cutting-edge frontiers of great national relevance.

### What are Gravitational Waves?

- **Gravitational waves were first postulated (1916)** in **Albert Einstein's General Theory of Relativity**, which explains how gravity works.
- These waves are produced by the movement of massive celestial bodies, such as **black holes or neutron stars**, and are the ripples in space-time that propagate outward.

### What is LIGO?

- **About:** LIGO is an **international network of laboratories** that detect gravitational waves.
- LIGOs are designed to **measure changes in distance that are several orders of magnitude smaller than the length of the proton**. Such high precision Instruments are needed because of the extremely low strength of gravitational waves that make their detection very difficult.

### First Detection of Gravitational Waves:

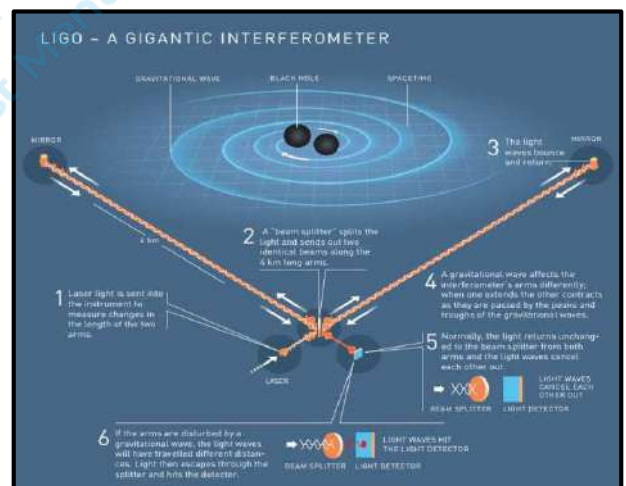
- The LIGO in the **US first detected gravitational waves in 2015**, which led to a **Nobel Prize in Physics in 2017**.
- These gravitational waves were produced by the **merger of two black holes**, which were about 29 and 36 times the mass of the Sun, 1.3 billion years ago.
- Black hole mergers are the **source of some of the strongest gravitational waves**.

### Operational LIGO:

**Besides the United States** (in Hanford and Livingston), such gravitational wave observatories are currently operational in **Italy (Virgo)** and **Japan (Kagra)**.

To detect gravitational waves, four comparable detectors need to be operating simultaneously around the globe.

### Working Mechanism:



- LIGO consists of **two 4-km-long vacuum chambers**, set up at right angles to each other, with mirrors at the end.
- When light rays are released simultaneously in both chambers, they should return at the same time.
- However, if a gravitational wave arrives, one chamber gets elongated while the other gets squished, causing a phase difference in the returning light rays.
- Detecting this phase difference confirms the presence of a gravitational wave.

## 5. India's Dairy Sector Needs a Structural Shift

### Why in news?

The Centre has reportedly been considering import of butter and ghee as the country is facing with a milk shortage.

### What is the significance of milk and dairy products?

- Milk and milk products are **rich in protein**.
- They are a **key source of calcium, vitamins and protein** for a large vegetarian population in India.
- Dairy industry **strengthens the rural economy**.

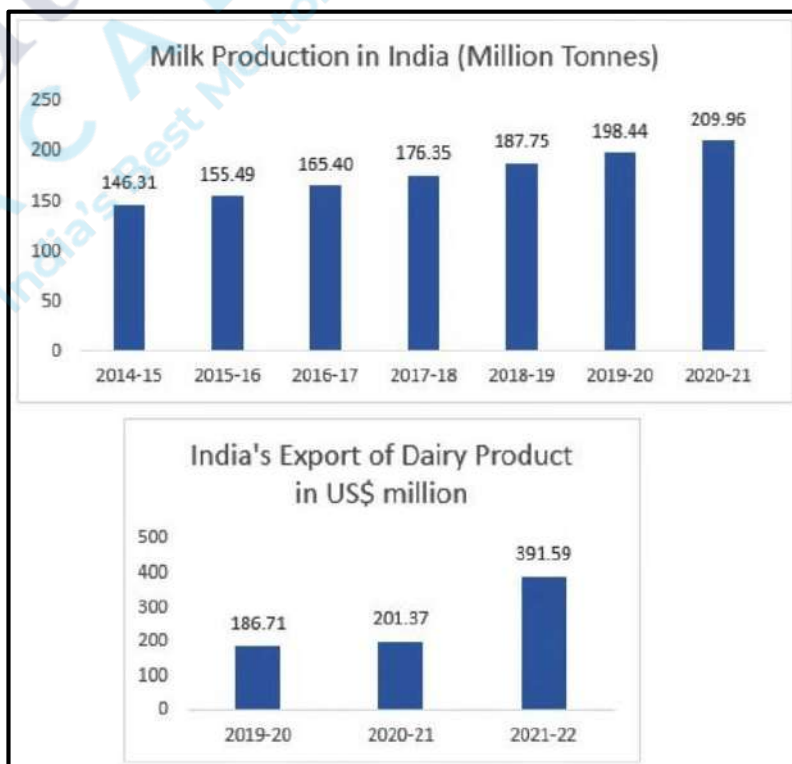
It acts as a **source of income for farmers** and potential for **women empowerment**.

### What is the present status of dairy sector in India?

- According to Food and Agriculture Organization Corporate Statistical Database (FAOSTAT), **India is the highest milk producer in the world contributing 24% of global milk production**.
- **Top milk-producing states** - Rajasthan (15.05%), Uttar Pradesh (14.93%) and Madhya Pradesh (8.6%)
- Indian dairy sector has an **annual growth trend of 5-6 %**.
- In 2022, there was **39% jump in exports of dairy products**.
- **Key export destinations** - Bangladesh, UAE, Bahrain, Malaysia, Saudi Arabia and Qatar.

### What are the challenges in dairy sector?

- **COVID** - It led to a **crash in prices and demand destruction** which led to the inability of dairy farmers to invest in their cattle.
- **Lumpy skin disease (LSD)** has led to a death count of 1.9 lakh cattle which made **capital losses for dairy farmers**.
- **Fodder inflation** – According to ICAR scientists, **fodder and feed account for 70 % of the cost of milk**.
- **Fodder inflation at 30%** has been a **critical factor for soaring milk prices**.
- **Milk shortage** - Dairy products demand is growing rapidly with rising population, incomes, urbanisation and changing diets.
- **Investment** – There is a need for **investment in supply chains in this capital intensive business**.
- **Cooperatives** – They revolutionised dairying, but due to a variety of factors their **success has not gone beyond Gujarat and Karnataka**.



### What efforts were taken by the government to boost dairy sector?

- **National Dairy Development Board (NDDB)** – It is **monitoring the supply-demand gap in dairy products** along with the Central government.
- **Operation Flood** - It was **launched in 1970** by National Dairy Development Board (NDDB).
- It **transformed India from a milk-deficient into the world's largest milk producer.**
- **Dr Verghese Kurien** was the architect of Operation Flood.
- **Rashtriya Gokul Mission** – It **aims to genetically improve the cattle population** and promote and conserve indigenous cattle breeds.
- **National Programme for Dairy Development (NPDD)** - It **aims to strengthen infrastructure for the production of high-quality milk** as well as for the procurement, processing, and marketing of milk and milk products.
- **Dairy Entrepreneurship Development Scheme (DEDS)** – It **aims to create self-employment opportunities** in the dairy industry.
- The National Bank for Agriculture and Rural Development (NABARD) is carrying out the programme.

## 6. India on the IFA negotiations

### Why in news?

India did not join the recently conducted **Investment Facilitation Agreement (IFA) negotiations** because of the flaws in the investor-state dispute settlement claims.

### What is an Investment Facilitation Agreement (IFA)?

- IFA is a **trade agreement proposed by the World Trade Organization.**
- **Aim** – To create legally binding provisions by facilitating investment flows.
- It requires **states to augment regulatory transparency and predictability of investment measures.**
- **Informal Dialogue** - In 2017, a **group of developing and least-developed country Members launched an Informal Dialogue on Investment Facilitation for Development in the WTO.**
- **IFA negotiations** - It was **formally launched in 2020 negotiations** as 'Agreement on Investment Facilitation for Development' (IFD Agreement).
- **Eligibility** - Participation in this joint initiative is open to all WTO Members.
- **India** - India did not join the IFA negotiations which is backed by more than 100 countries.

### What are the concerns of India?

- **Investor-state dispute settlement (ISDS)** – India opposes to join the investment facilitation agreement negotiations for **fear of investor-state dispute settlement claims.**
- **ISDS is a system through which individual companies can sue countries for alleged discriminatory practices.**
- ISDS is a **neutral, international arbitration procedure.**
- **Future IFA** - There are apprehensions that foreign investors could use IFA to bring claims under the existing BITs.
- **Most favored nation (MFN)** - Foreign investors may use the **MFN provision in BITs to borrow or import stipulations from the IFA.**
- **Fair and equitable treatment (FET)** - Foreign investors may use the provision of fair and equitable treatment present in BITs to challenge non-compliance with IFA.
- **Umbrella clause** - Most new investment treaties avoid **'umbrella clauses' altogether thus limiting the possibility of investors suing states for non-compliance of IFA obligations.**
- **ISDS tribunal** - It is doubtful that an ISDS tribunal will accept the argument that mere **non-compliance with IFA breaches an investor's legitimate expectations.**

### What is the status of India's bilateral investment treaties (BITs)?

- India's tryst with BITs **started in 1994** when it signed its first with the **United Kingdom.**
- **Bilateral Investment Treaties (BITs)** are **reciprocal agreements between two countries to promote and protect foreign private investments in each other's territories.**
- **Indian Model BIT** - BITs were negotiated based on the **Indian Model BIT of 1993.**
- Till **2015** India had signed **BITs with 83 countries.**
- The model BIT was finalized and released in public domain in 2016.



## Provisions of Model BIT 2016

- **Objectives** – To provide appropriate protection to foreign investors in India and Indian investors in the foreign country.
- To create a balance between the investor's rights and the Government obligations.
- **Arbitration** - The Model BIT stipulate that the aggrieved investor should use all local remedies as well as negotiations and consultations initiating arbitrations against the host State.
- **Enterprise** - Defines enterprise based on investment instead of asset based definition.
- **MFN treatment** – Excludes MFN treatment.
- **Full Protection and Security (FPS)** - FPS means obligations only relating to physical security of investors and to investments.
- **State government as stake holders** – Includes the actions of the State Governments.
- **Fair and equitable treatment (FET)** – It links Fair and Equitable Treatment to international laws to counter a broad interpretation and risk misuse.
- **Expropriation** - Expropriation means nationalization of assets of foreign companies.
- The Model BIT provides that the State cannot nationalise or expropriate an investment except for reasons of public purpose and on payment of adequate compensation.
- **Non-Discriminatory treatment** - The Model BIT includes a clause on non-discriminatory treatment for compensation of losses.
- **Corporate Social Responsibility** – It mandates foreign investors to voluntarily adopt internationally recognized standards of corporate social responsibility.

## 7. Medicinal Significance of Biodiversity Loss

### Why in news?

The loss of biodiversity in the recent times drives the **medicinal species to extinction** and ultimately jeopardizes the human health.

### What is the status of biodiversity loss in India?

- According to a recent report, **India has seen the highest rise in deforestation in the last 30 years.**
- Deforestation witnessed high surge between 2015 and 2020 and ranked **India the 2nd most deforested after Brazil.**
- According to the Centre for Science and Environment's (CSE), **over 90% of the area in India's biodiversity hotspots have been lost.**

### Medicinal significance of biodiversity

- **Animals, plants, fungi and bacteria which constitutes the biodiversity**, holds a treasure trove of chemicals used to treat various diseases in humans. For example,
- **Poison dart frogs** - They have compounds that are **good anesthetics and antibiotics.**
- **Horseshoe Crab** - The bright blue blood of the horseshoe crab was used in the **development of Covid vaccines.**
- **Pacific yew tree** - Paclitaxel, a drug used to **treat cancer** was derived from the bark of the tree.
- **Cone snails** - Ziconotide, a drug that is used to **treat severe pain** comes from cone snails.
- **Weaver shrimp & Cyanobacteria** - Shrimps weave the bacteria into nests, **which provide protection from predators by producing a toxic molecule.**
- These toxic molecules have **potential to treat pancreatic cancer in humans.**
- **Traditional Medicine** - Latex from fig trees are used to **treat intestinal parasites in the Amazon and neem oil is used to treat skin disorders in India.**

#### Biodiversity hotspots in India

1. Himalayas
2. Western Ghats'
3. Indo-Burma area
4. Sundaland

### What causes the loss of biodiversity?

- **Overharvesting** - According to the 2017 estimate, the **world has overfished a 3rd of global stocks.**
- **Land conversion** - Since 1990, around **420 million hectares of forest has been lost** through conversion into farmland or for other uses.
- **Climate change** - Growing carbon dioxide levels lead to **an increase in ocean acidification, bleaching corals and destroying vast habitats.**
- **Natural causes** - For example, **Chytrid fungus causes a disease in amphibians** that has wiped out as many as 90 species of frog.

#### **What are the impacts of loss of biodiversity?**

- It affects **local communities to access traditional medicines**
- Still, 4 billion people **primarily rely on natural remedies to heal themselves.**
- It also causes the loss of access to molecules that are yet undiscovered.
- **Beyond drug discovery, it will also affect the humans in many other ways. For example,**
  - **Clean air** - Trees take pollutants, like carbon dioxide, out of the air.
  - **Clean water** - Wetlands keep water clean.
  - **Pollination** - Insects are required to pollinate our crops to provide us with food, etc.
- The **recent COP-15 concluded in Montreal, Canada** have put forward various measures to safeguard biodiversity including the 30 x 30 target.

## **8. Large Hadron Collider**

### **Why in News?**

The LHC (Large Hadron Collider) has recently undergone upgrades to make it more accurate and sensitive and will start **collecting data in May 2023.**

The LHC has **undergone upgrades to increase its sensitivity and accuracy,** allowing scientists to study particles with even higher energy.

### **What is Hadron?**

Hadron is any **member of a class of subatomic particles** that are built from quarks and thus react through the agency of the strong force. **The hadrons embrace mesons, baryons (e.g., protons, neutrons, and sigma particles), and their many resonances.**

### **What is LHC?**

#### **About:**

The LHC is a huge experiment that collides two beams of particles to study physics at very high energies. It's **the largest science experiment in the world and is operated by CERN** (European Organisation for Nuclear Research)

The LHC is a circular pipe that is 27 km long and is **located on the Franco-Swiss border near Geneva, Switzerland.**

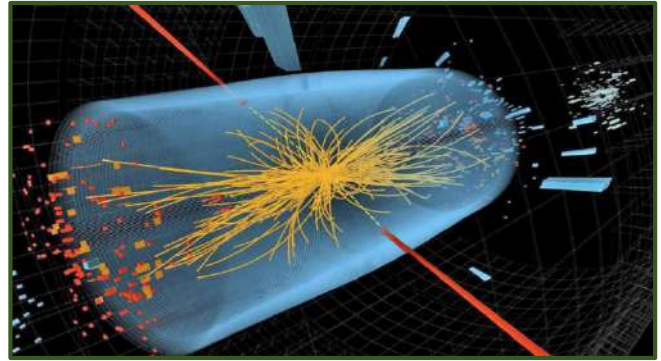
It **consists of two D-shaped magnetic fields** created by almost 9,600 magnets.

#### **Working Mechanism:**

- **Protons, which are subatomic particles made up of quarks and gluons,** are accelerated inside the LHC using these magnets.
- Quarks and gluons are subatomic particles that make up protons and neutrons. **Quarks come in six different "flavors": up, down, charm, strange, top, and bottom.** Gluons are particles that "glue" quarks together inside protons and neutrons through the strong nuclear force.
- Protons are not the only particles accelerated in the LHC.
- By switching the direction of the magnetic field rapidly, protons can be accelerated through the beam pipe.
- Other components help to focus the particles and keep them from hitting the pipe's walls.
- **The protons eventually move at 99.999999% of speed of light.**

### Significance:

- At such high energies, the **LHC can create conditions that existed only fractions of a second after the Big Bang.**
- Scientists use detectors placed along the beam pipe to observe the interactions of the accelerated particles, which can reveal new insights into the nature of matter and the universe.
- The LHC has already **discovered the Higgs boson in 2012 and confirmed their findings in 2013**, which is a particle that gives other particles mass.
- The LHC also helps to test theories in particle physics, such as **supersymmetry and extra dimensions.**



### What are Supersymmetry and Extra Dimensions?

#### Supersymmetry:

- It proposes that **every known particle in the universe has a yet-to-be-discovered "superpartner" particle**, which would have opposite spin and different quantum numbers.
- This would mean that every particle in the universe would have a partner that has not yet been observed, and it could help to solve some of the problems with the current standard model of particle physics, such as the hierarchy problem.

#### Extra Dimensions:

- Extra dimensions propose that the **universe has more than the three dimensions of space and one dimension of time that we are familiar with.**
- The idea is that there may be additional dimensions that are "curled up" or compactified and are too small to be detected by our current experiments.
- The **concept of extra dimensions arises in certain theories of gravity, such as string theory**, which suggest that gravity is stronger than expected at small distances because it "feels" extra dimensions.

### What are the Related Challenges?

- The LHC **faces many technical challenges**, such as maintaining the stability of the magnets and avoiding collisions between particles and the pipe's walls.
- The **LHC generates enormous amounts of data**. Handling and processing this data is a challenge that requires advanced computing and storage systems.
- The LHC is an **international collaboration that involves thousands of scientists from different countries and institutions**. Coordinating this collaboration and ensuring that all participants have access to the data and facilities they need is a challenge.

### Way Forward

- The LHC is a **remarkable scientific achievement**, but operating it requires a coordinated effort from many people and institutions. **Addressing the challenges associated with the LHC is crucial to advancing our understanding of the universe.**
- The LHC has **tested and disproved some theories that aim to explain the limitations of the Standard Model**, causing uncertainty in the physics community. To move forward, two ideas have emerged: upgrading the LHC to increase its luminosity and building a bigger and more expensive version in the hopes of finding new physics.
- **While CERN and China have proposed such a machine**, some physicists question whether the money would be better spent on less-expensive experiments with guaranteed results.

## 9. Issues with Farm Mechanization

### Why in News?

According to a recently released white paper by the **National Council of Applied Economic Research (NCAER)**, the **farm machinery industry in India faces significant challenges** in meeting the demands of small and marginal farmers.

### Status of Farm Mechanization in India

The farm machinery industry is **characterised by both demand and supply-side challenges**. **Farm mechanisation in India, at 40-45%, remains low compared to the rest of the world;** in the US it is 95%, Brazil 75%, and China 57%.

Despite low levels of farm mechanization in India, skills shortages and a lack of awareness among farmers about technology and machinery management pose significant obstacles to progress.

### Challenges with the Farm Machinery Industry

- **Skills Shortage:** The **shortage of skills is a pressing issue that creates a low-equilibrium trap for the industry**. At the bottom of the industry pyramid, village craftsmen represent the largest group, primarily catering to Indian farmers by supplying, repairing, and maintaining farm machinery.
- **Lack of Adequate Information:** There is a **lack of adequate information and awareness amongst farmers about the technology and the management of machinery**. Consequently, their selection of machinery is poor, often making it a wasted investment.
- **Lack of Skilled Personnel:** **The Micro, Small, and Medium Enterprises (MSMEs) face a shortage of skilled personnel**. Semi-skilled workers, lacking proper equipment, often fabricate agricultural tools and machinery. **The absence of qualified supervisors in small-scale fabrication makes it challenging to ensure quality**. Moreover, finding qualified personnel for testing machinery is also difficult.
- **High Capital Cost:** Farm machinery is **expensive, and farmers may not have the resources to invest in new equipment**. This can lead to a lack of access to the latest technology and reduced efficiency in farming operations.
- **Rapidly Changing Technology:** **Farm machinery technology is evolving rapidly, and manufacturers must continually invest in research and development to keep up**. This can be challenging for smaller manufacturers who may not have the resources to innovate quickly.
- **Dependence on Weather Conditions:** Farm machinery is **highly dependent on weather conditions** and adverse weather can cause delays and disrupt farming operations. **This can result in lost productivity and reduced profitability**.
- **Maintenance and Repair:** Farm machinery requires regular maintenance and repairs to keep it running efficiently. This can be **costly and time-consuming, especially for smaller farmers** who may not have the resources to maintain their equipment properly.
- **Environmental Concerns:** There is growing concern over the **environmental impact of farming, including the use of fossil fuels in farm machinery**. Manufacturers are under pressure to develop more sustainable and environmentally friendly equipment.

### Way Forward

- **Training Young Farmers/Owners/Operators:** Tractor training centres, **Krishi Vigyan Kendras, and industry should be made responsible for training young farmers/owners/operators on how to select, operate and service farm machinery**. They should also provide information on developments in mechanisation including the availability of new and better farm equipment for different applications.
- **Strengthening Front-line Demonstration:** Front-line demonstration of farm machinery should be strengthened and handheld training to users of new-generation farm machinery may encourage the extension and adoption of farm power.
- **Address Skilling Shortages:** The **Agricultural Skills Council of India should work at the district level to address skills shortages on the demand side**. Public-private partnerships with Custom Hiring Centres may be especially useful, and **Indian Council of Agricultural Research (ICAR) institutes can offer short courses that address skills shortages on the demand side**.



- **Industrial Training Institutes (ITIs)** can be leveraged to **address the skill gaps in repair and maintenance, and service centres** at the regional and State levels may be promoted in the private and industrial sectors.
- **Provisioning available Technical Knowledge and Skills:** The District Industries Centre should work with local industrial clusters so that ITIs can provide relevant courses with the latest available technical knowledge and skills.

## 10. Evaluation of PM MUDRA Yojana

### Why in news?

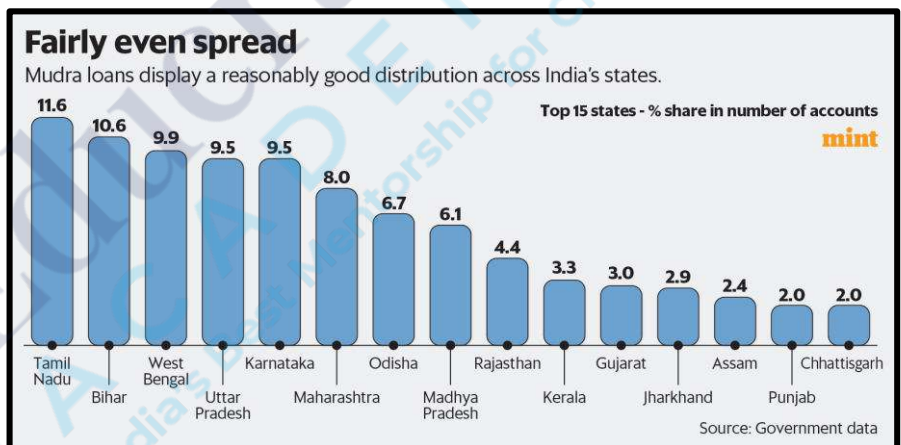
Recently Pradhan Mantri MUDRA Yojana (PMMY) completed **8 years contributing immensely to the inclusion of several communities that have traditionally been underrepresented as an entrepreneur.**

### What is Pradhan Mantri MUDRA Yojana (PMMY)?

- PMMY provides **collateral-free loans up to 10 lakh to the non-corporate, non-farm small/micro enterprises initially.**
- PMMY was **launched in 2015 with the objective to encourage young person to become 1st generation entrepreneurs.**
- These **loans are extended by Banks, NBFCs, Micro finance Institutions (MFIs)** and other eligible financial intermediaries as notified by MUDRA Ltd.
- MUDRA has **created three products namely 'Shishu', 'Kishore' and 'Tarun'.**

### Achievements of PMMY

- **New Entrepreneurs** – The Mudra Scheme has **created 8 crore new entrepreneurs.**
- **Bridging the gap** - The scheme has potentially **bridged the gap of India's microfinance and banking sectors** providing loans to micro entrepreneurs.
- **Sub-culture of poverty** - The PMMY has reduced the sub culture of poverty in short span of time.
- **Banking in unbanked areas** - PMMY provided **loans to bottom half of India** providing loans to the unbanked areas.
- **Innovation** - It induced **innovation, creative ecosystem** and also the **risk-taking appetite of entrepreneurs** which generated lot of employment opportunities.
- **1st time entrepreneurs** - The **share of Shishu loans is the highest (40%)** suggesting that the PMMY has largely supported first-time entrepreneurs.
- **Inclusion** - PMMY has benefitted all segments of Indian society such as general, schedule caste/tribe (SC/ST) groups and other backward classes (OBCs).
- **SC/ST and OBC categories** account for a **total of 51 per cent of all Mudra accounts.**
- **Women empowerment** - The share of accounts **held by women is 69%.**
- In 2022 **disbursements of loans to women entrepreneurs registered an average growth of 28%.**
- **Equal distribution** - Since it is a national scheme, it has shown **balanced penetration and economic growth across India.**
- States such as **Uttar Pradesh, Odisha and Bihar** have recorded **all-round gains from the PMMY.**



### What are the future aspirations?

- Timely utilization of benefits of **5G technology and e-commerce.**
- More awareness about Mudra cards and further penetration in to remote areas.

- Scheme can be **extended to personal sector** other than farms and factories.
- They can start a loan funding of less than Rs 50,000 so that the gap of 0-50k can be fulfilled.

## 11. Drug trafficking in India

### Why in News?

The global drug trade is a major problem that has put **security and law enforcement agencies on high alert worldwide, including in India.**

### Why is Drug Trafficking Dangerous?

It is a **social problem that harms youth and families** and the **money it generates is diverted for disruptive activities that have bearings on national security.**

- **Criminal networks traffic a range of drugs** including cannabis, cocaine, heroin and methamphetamine.
- **Methamphetamine (meth) is an addictive drug** and can cause considerable health adversities that can sometimes result in death.
- Recently, **USA has witnessed a new zombie drug (fentanyl) gripping its population.**
- This drug can cause raw wounds on the user's skin that can spread rapidly with repeated exposure.
- It **starts with ulcers, hardens to dead skin called eschar, and if left untreated can result in amputation.**
- Drug trafficking is often **associated with other forms of crime, such as terrorism, money laundering or corruption.**
- Trafficking routes can also be used by **criminal networks to transport other illicit products.**

### What is the Status of Drug Addiction in India?

In 2018, The Ministry of Social Justice and Empowerment has conducted a "National Survey on Extent and Pattern of Substance Use in India" in collaboration with AIIMS, New Delhi. The survey's findings are as follows:

Name of the substance	Prevalence of use (Age Group 10-75 years)
Alcohol	14.6%
Cannabis	2.83%
Opiates/ Opioids	2.1%

According to World Drug Report 2022, **India has the fourth largest quantity of opium seized in 2020 at 5.2 tons and the third-highest amount of morphine was also seized in the same year at 0.7 tons.**

### Illegal Drugs are trafficked in India

- **Threats from Death (Golden) Crescent:** Comprises Afghanistan, Iran, and Pakistan. Parts of Pakistan adjoining Afghanistan are also used by Pakistani drug traffickers to convert Afghan opium to heroin and then sent to India.



- **Threats from Death (Golden) Triangle:** Consists of Vietnam, Thailand, Laos and Myanmar. The Shan and Kachin provinces of Myanmar bordering China also pose challenges.
- **China Factor:** These heroin and methamphetamine-producing areas have porous borders and are, reportedly, under the control of rebel groups, indirectly supported by the Chinese. Illicit arms are manufactured here and supplied to underground groups active in India.
- According to the latest annual report by the **Narcotics Control Bureau (NCB)**, **drug trafficking through sea routes in the Arabian Sea and the Bay of Bengal**, estimated to account for around **70% of the total illegal drugs smuggled into India**.

#### **What are the Initiatives taken by India to curb the Drug Menace?**

1. **The Narcotic Drugs and Psychotropic Substances Act, (NDPS) 1985:** It prohibits a person from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.

2. **National Action Plan for Drug Demand Reduction:** The Ministry of Social Justice and Empowerment has prepared a plan for Drug Demand Reduction for the period of 2018-25. **This plan focuses on:**

- Preventive education
- Awareness generation
- Identification, counselling, treatment and rehabilitation of drug dependent persons

3. **Training and capacity building of service providers through collaborative efforts of government and NGOs.** National Fund for Control of Drug Abuse: It was created in accordance with a provision of the NDPS, 1985 for meeting the expenditure incurred in measures taken for:

- Combating illicit trafficking
- Controlling abuse of drugs and substances
- Identifying, treating and rehabilitating addicts
- Preventing drug abuse
- Educating public against drug abuse

4. **Nasha Mukh Bharat Campaign:** Nasha Mukh Bharat Abhiyaan (NMBA) was launched in 2020 to tackle the issue of Substance Abuse and a vision to make India Drug Free. It is a three-pronged attack combining:

1. The supply curb by Narcotics Control Bureau
2. Outreach and Awareness and Demand Reduction effort by Social Justice and Empowerment
3. Treatment through Health Department.

5. **Initiatives of Indian Coast Guards:** The Indian Coast Guard (ICG) has developed a good synergy with the security agencies and with the coast guards of Sri Lanka, Maldives and Bangladesh for seizure of such drugs.

6. **International Treaties and Conventions to Combat Drug Menace:** India is signatory of the following international treaties and conventions:

- United Nations (UN) Convention on Narcotic Drugs (1961)
- UN Convention on Psychotropic Substances (1971).
- UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)
- UN Convention against Transnational Organized Crime (UNTOC) 2000

#### **What are the Challenges in tackling Drug Trafficking in India?**

- **Dark Net:** Darknet markets are difficult to trace because of their anonymity and low risks. They have taken over the traditional drug markets. **Studies reveal that 62% of the darknet is being used for illicit drug trafficking.** The success rate in catching traffickers using the darknet has been very low the world over.
- **Transactions in Cryptocurrency:** Cryptocurrency payments and doorstep deliveries, through courier services, have made darknet transactions attractive.

- **Traffickers have become Creative and Tech Savvy:** The traffickers have adopted to new age technologies such as supplying drug and guns through drones in Punjab which have posed new challenges before the security forces.
- **Using more Safe and Anonymous methods:** The drug traffickers have started relying more upon courier/parcel/post after the restrictions imposed on vehicular/ship/airline movement during Covid-19 pandemic. In 2022, a person was arrested for doing the drugs business through making an e-commerce dummy website. In one more instance, few persons were arrested for selling drugs through e-commerce websites like amazon by listing fake products on the website.
- **Nexus between Drugs Lords and NRIs:** Recent investigations have revealed the connection of the drug cartels with NRIs based in Canada, Australia, Singapore, Hong Kong and several European countries along with local drug lords and gangsters in India, who have links with Khalistani terrorists and the ISI in Pakistan.
- **Trafficking through Local Gangs:** A new trend has emerged wherein organised gangs, which primarily used to carry out extortion activities in their local areas are being used for drug trafficking as they are ready-made logistics to carry out such activities.

### Way Forward

- To stop drugs from entering the country, measures must be taken such as **controlling cross-border trafficking and improving drug enforcement**. However, to fully address the problem, India must also work on reducing the demand for drugs through measures such as **imposing harsher punishments under NDPS Act, 1985**.
- **Awareness must be spread among the people to lower down the drug addiction through campaigns and NGOs.** The stigma associated with drug taking needs to be reduced. Society needs to understand that drug-addicts are victims and not criminals.
- **Certain crop drugs which have more than 50% alcohol and opioids need to be contained.** Strict action is required from police officers and the excise and narcotics department to curb the problem of drug menace in the country.
- **Education curriculum should include chapters on drug addiction, its impact and also on de-addiction.** Proper Counselling is another alternative.
- Concerted and coordinated efforts of all the agencies will be required to tackle this growing threat.
- **Creating more employment opportunities would solve the problem to some extent as Quick, and more, money attracts unemployed youth towards such activities.**

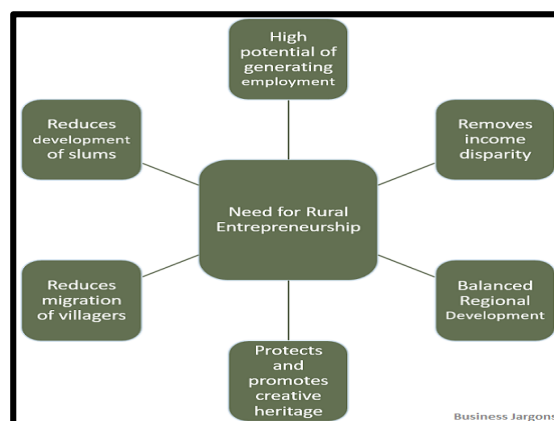
## 12. State of Rural Entrepreneurs in India

### Why in news?

Despite the growing numbers of rural entrepreneurs, the productivity of such entrepreneurs is concerning.

### What are the factors that promote rural entrepreneurship?

- **Skilling - National rural livelihoods mission (NRLM) and Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)** is a placement linked skill development programme.
- These schemes allows skilling in a **PPP mode and assured placements**.
- **Training - Rural self-employment and training institutes (RSETI)** enables the trainees to take bank credit facility to start micro-enterprises.
- **Promotion of entrepreneurship - Startup India initiative** promotes entrepreneurship among the youth of India.
- **Sustainable livelihoods - Deen Dayal Antyodaya Yojana (DDAY)**, which focuses on sustainable livelihoods for rural communities.
- **Financial inclusion - NRLM**, which now has **the largest network of women's SHGs globally** has helped in financial inclusion.
- Mudra Yojana also provide financial support.

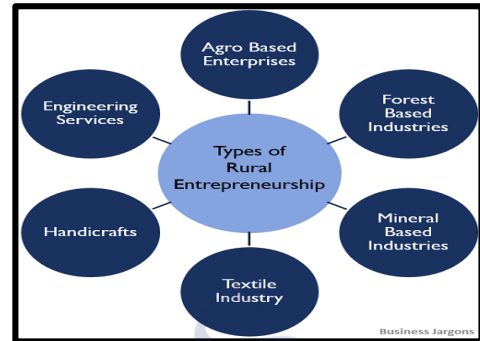




- **Production and marketing - One district one product (ODOP) identifies products that are unique to a particular district and promote their production and marketing.**
- ODOP also provide market linkages to the entrepreneurs.
- As of **March 2023**, there are **8.2 million SHGs in India with 89 million members.**

### What are the challenges to the rural entrepreneurship?

- Inadequate infrastructure in rural areas
- Limited access to finance
- Lack of formal vocational/technical training
- Low upgradation in the technology
- Most entrepreneurs produce products for their own consumption



### Quick facts

#### As per Periodic Labor Force Survey (PLFS) 2020-21

- The share of self-employed workers in rural areas is 61.3% as compared to 39.5% in urban areas.
- The share of self-employed workers in rural manufacturing rose from 47.02% in 2018-19 to 52.6% in 2020-21.
- Only 12% of self-employed sell their entire produce/product.
- 69.73% of workers out of total rural manufacturing workers have not received any training.
- 26.47% of workers have received informal training.

### Way Forward

- **Productivity** - Needs to be enhanced.
- **Holistic approach** - By integrating policy support, infrastructure development, and capacity building for the rural youth entrepreneurs.
- **Indigenous/ hereditary skills** - Support for promoting the indigenous/ hereditary skills is also required to scale up operations.
- **Technical know-how** - The entrepreneurs needs to be in cultivated with the recent technologies.

## 13. Group of Seven (G7) Summit to phase out fossil fuels

### Why in news?

G7 sets **renewables target**, however, no timeline for fossil fuel phase out.

### What are the key proposals of the meeting?

- **Energy transition** - G7 collectively decided to **increase offshore wind capacity by 150 gigawatts and add solar capacity of over 1 terawatt.**
- **Fossils fuels** - To 'accelerate the phase out of unabated fossil fuels but failed to share a timeline for the phase out, including for unabated domestic coal.
- To 'fully or predominantly' **decarbonise power sector by 2035.**
- To **eliminate inefficient fossil fuel subsidies by 2025** or sooner.
- **Critical minerals** - To resolve vulnerabilities and diversify the source of these critical minerals.
- **Climate finance** - Committed to work on the decisions agreed upon at COP27 to establish new funding arrangements, including a fund to assist developing countries.
- To accelerate efforts for financing adaptation.



- **Carbon markets** - 'Principles of High-Integrity Carbon Markets' have been proposed to ensure high-integrity carbon markets.
- **Industrial decarbonisation** - Recognised the risk of carbon leakage, where companies simply move their operations to countries with less stringent climate policies.
- **Pledge to end new plastic pollution by 2040.**

#### Why the meeting is not constructive?

- **Fossil Fuels** – While G7 ministers recognised the **need to scale up renewable energy**, their commitment to phase out of fossil fuels is frivolous and full of loopholes.
- **Rich countries** – They are shirking their responsibility to provide adequate finance to help poorer nations adapt to and recover from the losses and damages caused by climate disasters.
- The energy-transition ambition is not equally shared among the members.
- **Japan** – It has been an outlier because of its reluctance to phase out fossil fuels and instead rely on carbon capture and the use of hydrogen in promoting low-carbon technologies.
- **Canada** – While Canada pushed for stronger language on coal phase-out, the statement on fossil fuels was watered down due to Japan's opposition.
- Overall, the commitments made on energy transitions, with targets being set for solar and wind capacity additions are more than what was initially expected.
- **However, this may not be enough to keep the 1.5 degrees Celsius target achievable.**

#### What are the challenges in phasing out fossil fuels?

- The past commitments to energy transition were not achieved.
- No timeline to eliminate the phase out of fossil fuels.
- Lack of consensus in deciding the alternate energy.
- Loopholes in policy measures to phase out fossil fuels.
- The energy-transition ambition is not equally shared among the members.
- Geopolitical concerns for critical mineral extraction from poor countries.
- Lack of comprehensive action plan on carbon leakage.
- Low-carbon technologies and renewable hydrogen were not given due importance.

### 14. Concerns of Rising Sea Level (SLR)

#### Why in news?

**World Meteorological Organization's (WMO) State of the Global Climate 2022 report** highlighted that the **world's sea level is rising at an unprecedented rate.**

#### How much is the sea rising?

- The **rate of global mean sea-level (GSML) rise has doubled** between the first decade of the satellite record and the last.
- To calculate the rate of change in the GSML, i.e. how fast or slow the sea level is changing, we can calculate the difference in the GSML across a few years, usually a decade, and then divide the difference by the number of years.
- **The sea level has been rising in the last 3 decades.**
- The rate of sea-level rise was 2.27 mm/year in 1993-2002, it shot up to 4.62 mm/year in 2013-2022.

#### What causes accelerated sea-level rise (SLR)?

- **Thermal expansion** due to increasing ocean temperatures.
- Ocean warming the phenomenon of rising mean ocean temperatures contributed 55% to GSML rise.
- According to the State of the Global Climate 2022 report in 2005-2019, **loss of glaciers and ice sheets contributed 36% to the GSML rise.**

- Changes in the storage of land water contributed less than 10% to GSML rise.
- **Thinning of cryosphere** leading to melting of glaciers.
- **The cryosphere includes the Arctic and Antarctic regions, seasonal snow cover, and permafrost** (mass of land that remains below 0° C for at least 2 straight years).
- Increasing **concentrations of carbon dioxide and other greenhouse gases**.

#### What are the impacts of sea level rise?

- **Groundwater crisis** - It allows the salt water to enter underground making the underground water salty.
- **Coastal areas** - It affects the coastal areas by swallowing the land
- **Migration** - People in coastal areas gets migrated due to increasing sea level rise.
- **Land cover** - May be decreased leading to population density
- Acute shortage of land for human use.
- **Cyclones** - The chances of cyclones could increase, affecting coastal communities and leading to large economic liabilities to tropical countries.
- **Disintegrate the coastal communities** - People on the coastal ecosystem may be affected and push them to poverty and force them to migrate.

#### Steps taken to Tackle SLR:

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

#### Vulnerability of India:

India's 7,516-kilometre-long coastline includes **5,422 kilometres of coastline on the mainland and 2,094 kilometres on the islands belonging to nine states and four Union Territories**.

The coastline accounts for 90% of the country's trade and it spans 3,331 coastal villages and 1,382 islands.

#### India's Efforts:

**Coastal Regulation Zone:** The coastal areas of seas, bays, creeks, rivers, and backwaters which get influenced by tides up to 500 m from the high tide line (HTL) and the land between the low tide line (LTL) and the high tide line were declared as Coastal Regulation Zone (CRZ) in 1991.

The latest regulation also takes into account rising sea-levels due to global warming.

**National Action Plan on Climate Change:** It was launched in **2008 by the Prime Minister's Council on Climate Change**. It aims at creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.

#### Way Forward

The Paris Agreement provides a clear vision on limiting global warming and thus, SLR. **Some of the other steps in this direction would include:**

- Switching from fossil fuels to clean alternatives like solar and wind energy.
- Instituting carbon taxes on industries and subsidies for reducing the carbon footprint.

- Carbon sequestration by geo-engineering and natural methods like restoring peatland and wetland areas to capture existing greenhouse gases.
- Afforestation and reducing deforestation.
- Subsidizing research on climate change.

## 15. National Quantum Mission (NQM)

### Why in News?

Recently, the union cabinet chaired by the **Prime Minister has approved the National Quantum Mission (NQM) to aid scientific and industrial research and development in quantum technology.**

### What is National Quantum Mission?

#### About:

It will be **implemented by the Department of Science & Technology (DST) under the Ministry of Science & Technology.**

The mission planned for 2023-2031 **aims to seed, nurture, and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).**

With the launch of this mission, **India will be the seventh country to have a dedicated quantum mission after the US, Austria, Finland, France, Canada and China.**

#### Salient features of NQM:

- It will target developing intermediate scale quantum computers with 50-100 physical qubits in 5 years and 50-1000 physical qubits in 8 years.
- Just like bits (1 and 0) are the basic units by which computers process information, 'qubits' or 'quantum bits' are the units of process by quantum computers.
- The mission will help develop magnetometers with high sensitivity for precision timing (atomic clocks), communications, and navigation.
- It will also support design and synthesis of quantum materials such as superconductors, novel semiconductor structures and topological materials for fabrication of quantum devices.

#### The mission will also help developing:

- Satellite based secure quantum communications between ground stations over a range of 2000 km within India.
- Long distance secure quantum communications with other countries
- Inter-city quantum key distribution over 2000 km
- Multi-node Quantum network with quantum memories

#### Four Thematic Hubs (T-Hubs) would be set up in top academic and National R&D institutes on the domains of Quantum Technology:

- Quantum computation
- Quantum communication
- Quantum Sensing & Metrology
- Quantum Materials & Devices

#### Significance:

This will **accelerate QT led economic growth and make India one of the leading nations in the development of Quantum Technologies & Applications (QTA)** ranging from healthcare and diagnostics, defence, energy and data security.

It will work towards indigenously building quantum-based computers which are far more powerful and are able to solve the most complex problems in a highly secure manner.



### What is Quantum Technology?

- Quantum technology is a **field of science and engineering that deals with the principles of quantum mechanics**, which is the study of the behaviour of matter and energy at the smallest scale.
- Quantum mechanics is the branch of physics that describes the behavior of matter and energy at the atomic and subatomic level.

### Advantages of Quantum Technology

- **Increased Computing Power:** Quantum computers are very much faster than the computers we today have. They also have the capability to solve complex problems that are currently beyond our reach.
- **Improved Security:** Because they rely on principles of quantum mechanics, quantum encryption techniques are much more secure than traditional encryption methods.
- **Faster Communication:** Quantum communication networks can transmit information faster and more securely than traditional networks, with the potential for completely unhackable communication.
- **Enhanced AI:** Quantum machine learning algorithms can potentially enable more efficient and accurate training of Artificial Intelligence models.
- **Better Sensing and Measurement:** Quantum sensors can detect extremely small changes in the environment, making them useful in areas such as medical diagnostics, environmental monitoring, and geological exploration.

### What are the Disadvantages of Quantum Technology?

- **Expensive:** The technology requires specialized equipment and materials, which make it more expensive than the traditional technologies.
- **Limited Applications:** Currently, quantum technology is only useful for specific applications such as cryptography, quantum computing, and quantum communication.
- **Sensitivity to Environment:** Quantum technology is highly sensitive to environmental interference, such as temperature changes, magnetic fields, and vibrations.
- Qubits are easily disrupted by their surroundings, which can cause them to lose their quantum properties and make mistakes in calculations.
- **Limited Control:** It is difficult to control and manipulate quantum systems. Quantum-powered AI could create unintended consequences.
- Quantum-powered AI systems could potentially arrive at conclusions that are unexpected or difficult to explain as they operate on principles that are fundamentally different from classical computing.

### Conclusion

Overall, while quantum technology has enormous potential, there are still many challenges that must be overcome before it can be widely adopted.

## GS 4

### 1. National Civil Service Day

#### Why in News?

- Every year, **21st April** is celebrated as the **Civil Services Day** by the Government of India.
- It is **celebrated as an occasion for the civil servants to rededicate themselves to the causes of citizens and renew their commitments to public service and excellence in work.**
- The date is chosen to commemorate the day when the **first Home Minister of Independent India, Sardar Vallabhbhai Patel addressed the probationers of Administrative Services Officers in 1947 at Metcalf House, Delhi.**
- He referred to civil servants as the '**Steel Frame of India**'.

#### SIGNIFICANCE/IMPORTANCE OF ETHICS IN PUBLIC ADMINISTRATION:

- **Public resource utilization:** Ethical use of resources ensures the efficient and effective development of society without corruption. It makes the one holding public office accountable for his/her actions.
- The ethical standards of **Impartiality and objectivity bring merit into organization** thereby, increasing predictability, which improves economic efficiency.
- **Outcomes for society are better when the decisions of public office holders are made fairly and on merit and not influenced by personal and private interests.** Commitment and dedication to work improves the administration.
- **Public trust and assurance:** Every section of public irrespective of race, religion, caste must be treated equitably and ethics ensures just and fair administration.
- **Social capital:** A just and ethical administration will have credibility and ensures citizen participation in administration. The trust thus generated makes the administration easier and synergetic.
- **Curb corruption:** Improving efficiency and break the unholy nexus between the administration and the anti-social elements.
- **Adding the component of compassion to day to day works** makes a lot of difference to the lives of vulnerable sections.
- **The administration becomes responsive to the needs and aspirations of the public.** For instance, creation of a separate public market for road side vendors before their evacuation in west Bengal.
- Ethical administration also helps in **building rapport in international relations and economy.**
- To provide guidelines and rules which can harmonize the relationship between civil servants and political executive. Thus, promoting the non-partisanship and impartiality in civil servants.
- To **inculcate high moral standards in public servants** and their ensure translation into actions.
- **Absence of ethics results in authoritarianism, suppression of minority rights, high corruption and impoverishment of the poor and the vulnerable.** Historically it has only been disastrous whether it is the colonial administration or the authoritarian governments like that of Hitler/Stalin.

#### VALUES IN ADMINISTRATIVE ETHICS:

- The salient 'values' envisaged in the draft '**Public Service Bill**' are:
- Allegiance to the various ideals enshrined in the Preamble of the Constitution
- Apolitical functioning
- Good governance for betterment of the people to be the primary goal of civil service
- Duty to act objectively and impartially
- Accountability and transparency in decision-making
- Maintenance of highest ethical standards
- Merit to be the criteria in selection of civil servants consistent, however, with the cultural, ethnic and other diversities of the nation
- Ensuring economy and avoidance of wastage in expenditure
- Provision of healthy and congenial work environment

### **NOLAN COMMITTEE (1994) on Standards in Public Life:**

- **Selflessness** – Holders of public office should act solely in terms of the public interest.
- **Objectivity** – Holders of public office must act and take decisions impartially, fairly and on merit, using the best evidence and without discrimination or bias.
- **Accountability** – Holders of public office are accountable to the public for their decisions and actions and must submit themselves to the scrutiny necessary to ensure this.
- **Openness** – Holders of public office should act and take decisions in an open and transparent manner. Information should not be withheld from the public unless there are clear and lawful reasons for so doing.
- **Honesty** – Holders of public office should be truthful.
- **Leadership** – Holders of public office should exhibit these principles in their own behaviour. They should actively promote and robustly support the principles and be willing to challenge poor behaviour wherever it occurs.
- **Dedication** – The quality of remaining committed to public cause and citizen welfare even in face of hardships, threat and temptation.
- **Empathy and compassion**– Empathy is about being able to accurately hear out and understand the thoughts, feelings and concerns of others, even when these are not made explicit. Compassion goes beyond empathy and arouse an active desire to alleviate the suffering of others.
- **Tolerance**– It is a permissible attitude towards others especially when they have an opinion or view point opposite to one's own opinion.
- **Integrity**– Holders of public office must avoid placing themselves under any obligation to people or organisations that might try inappropriately to influence them in their work.

Ethics guide human conduct and it help people to lead good life by applying moral principles. The same when applied to public administration will not only bring efficiency but also helps in developing an egalitarian, just and fair society.



## Prelims Booster- The Hindu & Indian Express

1st April

- Hue And Cry Notice:** It simply means that if a suspect/ criminal is found running down the street in front of some bystanders, each of them needs to yell out to help the police identify and catch them. Police issues a **'hue and cry notice' when it requires help of public in cases such as locating missing persons, identifying unclaimed bodies, looking out for a suspect among others.** The **'Statute of Winchester'** signed by **King Edward I in 1285** mandated that anyone who witnessed a crime not only had to report it but take up a cry to alert the police.
- Gamosa:** It is generally a white rectangular piece of cloth with primarily a red border on two sides and red woven motifs on the other two sides. **Although the cotton yarn is the most common material for making/weaving gamosas,** there are special occasion ones made from Pat silk. **It is a symbol of the culture and identity of Assam and had received the GI tag in 2022.** It also has a **special relationship with the Vaishnavite culture in Assam.** The axon, the main place of worship, is considered incomplete without one. So, there's a lot of emotion attached to it.
- Govt to ease rules on construction around protected monuments:** Currently, construction up to 100 metres around protected monuments is prohibited, while an **area up to 200 metres beyond the prohibited area is regulated, under the Ancient Monuments and Archaeological sites and Remains (AMASR) Act,** and has stringent rules in terms of construction-related permit. **No construction work or related activity is generally permitted in prohibited and regulated areas around all 3,696 protected monuments across the country,** unless a specific approval is taken from the National Monuments Authority (NMA).
- Bali Peace Clause:** India's MSP programme is under scrutiny (for the 3rd time) as it is the first country to invoke the Bali 'peace clause' to justify exceeding its 10% ceiling (of the total value of rice production) for rice support in 2018-2019 and 2019-2020. **It was adopted at WTO's Bali Ministerial Conference (2013)** unless a permanent solution was found for the food security concerns of the developing countries. **The 'peace clause' said that no country**

would be legally barred from food security programmes even if the subsidy breached the limits specified in the WTO agreement on agriculture. While the 'peace clause' allows developing countries to breach the 10% ceiling without invoking legal action by members, it is subject to numerous conditions such as not distorting global trade and not affecting food security of other members. **The G33 (or the Friends of Special Products in agriculture) including India is a coalition of developing and least developed countries.** The G33 has been advocating a permanent solution at WTO to address their food security concerns.

### 5. Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP):

UK will become the first new member, and the first in Europe, to join the CPTPP since it came into force in 2018. It is a **free trade agreement (FTA) between 11 nations:** Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam. It was signed in **March 2018.** It succeeded the Trans-Pacific Partnership (TPP) after the United States withdrew from the TPP in 2017. **All 11 countries of CPTPP are members of the Asia-Pacific Economic Cooperation (APEC).**

3rd April

- Foreign Trade Policy 2023:** Union Minister of Commerce and Industry, Consumer Affairs, Food and Public Distribution and Textiles launched the Foreign Trade Policy (FTP) 2023. **Four new towns, namely Faridabad, Mirzapur, Moradabad, and Varanasi, have been designated as Towns of excellence in addition to the existing 39 towns.** Shift from Incentive to Remission

SALIENT FEATURES	
▶ Targets <b>\$2 trillion</b> exports by 2030	▶ Digitisation and faster processing of applications
▶ Continuous and responsive framework with no end date	▶ Amnesty scheme for shortfall in export obligations
▶ Making rupee a global currency	▶ Restructuring of Department of Commerce
▶ Making India a trade hub	▶ Over 50% reduction in threshold for recognition of star trade houses

- Bastille Day Parade:** The Bastille Day military parade, also known as the 14 July military parade, is



a French military parade that has been held on the morning of 14 July each year in Paris since 1880. It is also one of **the oldest regular military parades in the world**. July 14 is the anniversary of the storming of the **infamous Bastille prison in 1789 – a turning point for the success of the French Revolution**. This day is marked as the **National Day of France**.

- Reusable Launch Vehicle-Technology Demonstration (RLV-TD):** In a first in the world; a winged body has been carried to an altitude of 4.5 km. Chinook helicopter was used to drop the RLV-TD from a 4.5 km altitude and ISRO executed the landing ISRO conducted the RLV LEX (experiment) at the **Aeronautical Test Range of DRDO in Karnataka**. A Winged RLV-TD has been configured to act as a flying test bed to evaluate various technologies like, hypersonic flight, autonomous landing, and powered cruise flight. **RLV-TD is similar to that of an aircraft and combines the complexity of both launch vehicles and aircraft**. It consists of a fuselage (body), a nose cap, double delta wings, and twin vertical tails. It also features symmetrically placed active control surfaces called Elevons and Rudder. **RLV-TD was successfully flight tested on May 23, 2016, from Sriharikota**. This was the second in the series of experimental flights of the programme.
- Performer's rights:** It refers to the legal rights granted to actors, singers, musicians, dancers, and other performers for their creative works. It is protected under **international treaties such as the Rome Convention for the Protection of Performers and the WIPO Performances and Phonograms Treaty (1996)**. In this treaty, the moral rights of the performers were recognized for the first time in any international treaty. **In India, performer rights were recognised under the Copyright Act of 1957 in the year 1994**. The duration of the protection of the performer's rights is 50 years from the end of the year in which the performance was fixed or it took place.
- Basholi paintings:** Considered the **first school of Pahari paintings**, it is a reputed school of miniature paintings known for its vivid, evocative colours, bold lines, and deep-set facial patterns from Jammu and Kashmir.  
**Colours used:** Ochre yellow, brown, and green grounds predominating.  
**Themes:** The portraits of local rulers, Radha-Krishna, and Madhava-Malati love themes and themes from the Bhagavata Purana. These are painted on paper, cloth, or wood using natural pigments and dyes.

**It recently got GI tag; the 1st from Jammu.**

#### 4th April

- Crohn's Disease:** It is a chronic, or long-term condition that causes inflammation in the digestive tract. It is not clear what causes Crohn's disease. Although it **typically starts in childhood or early adulthood, Crohn's disease can develop at any age**. Inflammation caused by Crohn's disease can involve different areas of the digestive tract in different people, most commonly the small intestine.  
**Treatment:** There's no known cure for Crohn's disease, but therapies can greatly reduce its signs and symptoms.
- Bedaquiline:** Recently, the Indian Patent Office rejected Johnson & Johnson's attempt to extend its monopoly on manufacturing Bedaquiline in India. **Bedaquiline is an oral medication used to treat active tuberculosis. It is particularly used to treat multi-drug-resistant tuberculosis (MDR-TB)**. It has a unique mechanism of action, targeting the adenosine triphosphate (ATP) synthase enzyme of the TB mycobacteria. **The Patents Act, 1970 is the legislation that governs patents in India. It first came into force in 1972**. The Office of the Controller General of Patents, Designs and Trade Marks or CGPDTM is the body responsible for the Indian Patent Act.
- High Mobility Artillery Rocket Systems (HIMARS):** It is a light multiple rocket launcher manufactured a US-based security and aerospace company. It is an **air-transportable wheeled launcher mounted on 5-ton Family of Medium Tactical Vehicles (FMTV)**. It can fire six guided missiles in quick succession. HIMARS fires GPS-guided missiles which can be more accurately targeted.
- World Energy Transitions Outlook report:** International Renewable Energy Agency (IRENA) released the **World Energy Transitions Outlook report. The global energy transition is still "off-track" and falls short of the 1.5 degrees Celsius pathway**. By 2030, cumulative investments must amount to USD 44 trillion, with transition technologies representing 80 per cent of the total, or \$35 trillion, "prioritising efficiency, electrification, grid expansion and flexibility". Current pledges and plans fall well short of IRENA's 1.5°C pathway and will result in an emissions gap of 16 gigatonnes (Gt) in 2050.

5. **Varanasi-based goods receive GI tag:** The **Benarasi Paan** which is famous for its delicious taste and make **got GI tag**. Further, **Banarasi Langda Mango**, **Ramnagar Bhanta** (Brinjal), and **Adamchini Rice** also received the GI tag for the riverine city in the Bhojpur-Purvanchal region of India. With this addition, a **total of 22 GI-tagged products belong to the Kashi region**.

#### 5th April

1. **Rare earth elements:** Hyderabad-based National Geophysical Research Institute has found large deposits of 15 rare earth elements (REE) in Andhra Pradesh's Anantapur district. During the survey, **they identified major REEs such as allanite, cerite, thorite, columbite, tantalite, apatite, zircon, monazite, pyrochlore euxenite and fluorite**. Rare Earth Metals are a set of 17 metallic elements, including the 15 lanthanides and scandium and yttrium. **They are called "rare earth" because they occur in low concentrations of minerals and were difficult to extract from their oxide forms**. They have unique magnetic, luminescent, and electrochemical properties and are used in many modern technologies. India has 6% of the world's rare earth reserves, but it only produces 1% of global output while China produces 60% of the world's rare earth. Mining and processing of rare earth in India are concentrated in the hands of IREL (India) Limited, a PSU under the Department of Atomic Energy.
2. **W12+ Blueprint:** It is a **UNESCO platform** that hosts city profiles and case studies of programs, technologies, and policies that address common water security challenges. **It is an informational database for solutions to urban water challenges**. It will house information on best practices, encourage further knowledge exchange, and become a "virtual Hub" for urban water security solutions globally. Cities listed under this blueprint from India **are Chennai, Bengaluru, Mumbai and Pune**.
3. **Procedure for NATO membership:** Finland has officially joined NATO as **31st member**. Once agreed upon among North Atlantic Treaty Organization (NATO) members, the applicant country joins the Membership Action Plan. This is the very first step to subscribe. NATO then introduces an amendment to make the said country a party to the Washington Treaty (also known as the NATO Treaty). Thereafter, the new member joins the NATO treaty. **The criteria required for NATO membership include**

**democratic political system, market economy, fair treatment of minority populations, etc**



4. **Hikikomori:** It is a **phenomenon of social withdrawal**, is spreading rapidly in Japan. It is a term used to describe people who have withdrawn from society, often for a period of six months or longer. It is associated with feelings of **anxiety, depression, and social phobia**.
5. **Lublin Triangle:** It is a regional alliance of **three European countries – Lithuania, Poland, and Ukraine** – for the purposes of strengthening mutual military, cultural, economic and political cooperation and supporting Ukraine's integration into the European Union and NATO. **The Lublin Triangle initiative invokes the integrative heritage of the 1569 Union of Lublin**. The Lublin Triangle countries declare their support for restoring Ukraine's territorial integrity within internationally recognized borders and call for an end to Russian aggression.

#### 6th April

1. **UN WATER CONFERENCE:** It was the first such meeting in 46 years. The **last UN Water Conference, held in 1977**, resulted in the first global 'Action Plan'.  
**Commitments:** 713 voluntary commitments by philanthropic donors, governments, etc. This included a \$50-billion commitment from India to improve rural drinking water services under the Jal Jeevan Mission. An effort called **'Making Rights Real'** offered to help marginalised communities and women understand how to exercise their rights. 'Water for Women Fund' offered mechanisms for more effective and sustainable water, sanitation, and hygiene outcomes for women. No explicit funding agenda was set.
2. **Finlandization:** it refers to the policy of strict neutrality between Moscow (Russia) and the West that Finland followed during the decades of the Cold War. **The principle of neutrality was rooted in the Agreement of Friendship, Cooperation, and**

**Mutual Assistance (or YYA Treaty)** that Finland signed with the USSR in April 1948 **“Finlandization” is the best course Ukraine can take:** Russia is determined to expand his sphere of influence and undermine an independent Ukrainian government, and the West making it clear it would not go to war against Russia to defend Ukraine.

3. **NPCI’s new circular on levy charges:** NPCI issued a circular to banks directing to levy charges up to 1.1% on merchant transactions made through Prepaid Payment Instruments (PPIs) wallets using UPI. **Prepaid Payment Instruments (PPIs) are a type of payment method that is used to purchase various goods and services as well as send or receive money by using the stored value in the wallet.** Under the PPI mode of transaction, the users must pre-load the digital wallet with a desired amount by using cash, or debit to a bank account, by credit/debit cards, or UPI. **The most prevalent form of PPI used in India at present is the mobile wallet. It is to be noted that PPIs can only be used in Indian rupees.**

4. **United Nations Statistical Commission:** India has been elected to the highest statistical body of the United Nations for a four-year term beginning **January 1, 2024. It was established in 1947 (HQ: New York)** bringing together the Chief Statisticians from member states from around the world. The Statistical Commission oversees the work of the United Nations Statistics Division (UNSD), and it is a Functional Commission of the UN Economic and Social Council. **The term of office of members is four years.** India was a member of the Statistical Commission last in 2004. The Commission consists of **24 member countries of the United Nations elected by the UN ECOSOC based on an equitable geographical distribution.**

5. **India Justice Report 2022:** The Report (initiated by Tata Trusts in 2019) is a first-of-its-kind national periodic report that ranks the capacity of states to deliver justice. It assesses the capacity of **4 core pillars of the justice system: Police, Prisons, Judiciary and Legal aid across all 36 states and UTs.** The IJR 2022 also separately assesses the capacity of the 25 State Human Rights Commissions in the country. Out of the 18 large and medium-sized states having a **population of over 1 crore each, Karnataka ranked first in “justice delivery”** Meanwhile, the State of UP is at the lowest rank **(18th) among mid-sized and large States having population over 1 crore, while the State of Goa is at the lowest rank (7th) among the small States with a population less than 1 crore.** Although states

have increased budget allocation for legal aid, legal aid clinics reduced by 44 per cent between 2019 to 2021. Except for two union territories, Delhi and Chandigarh, no state spends more than 1 per cent of its total annual expenditure on the judiciary.

### 7th April

1. **Open-source seeds movement: It simply asks for a pledge, that an individual won’t “restrict others’** use of seeds or their derivatives by patents or other means. The **Hyderabad-based Centre for Sustainable Agriculture (CSA),** developed a model with the help of farmer-producer organisations (FPOs). There are now **two forms of IPR protection in agriculture: PBRs and patents.**

PBRs give the breeder exclusive control over the propagating material (including seed) and harvested material of a new variety of plants for a number of years, preventing the unauthorised use of seeds to develop new varieties. Together, they restrict farmers’ rights and the freedom to develop new varieties using germplasm from IP-protected varieties.

2. **Domestic Gas Pricing:** Under the Administered Price Mechanism, the Indian government sets the price of natural gas produced by oil and gas companies. The price of APM gas, which accounts for about two-thirds of India’s natural gas production, has been **determined as per the ‘modified’ Rangarajan formula since November 1, 2014.** Price is determined **Quarterly based on the cost of production, returns, and a notional price of imported LNG.** It has no floor or ceiling and No premium allowed. The new changes will mainly apply to gas produced by legacy fields, or nomination fields, of national oil companies **Oil and Natural Gas Corporation (ONGC) Ltd and Oil India Ltd (OIL).** Nomination fields are acreages that the government awarded to ONGC and OIL before 1999, after which auctions became the basis of awarding oil and gas blocks.

3. **Changes to the pricing mechanism:** New Pricing mechanism based on recommendations of Kirit Parikh Panel The natural gas produced from legacy or old fields will now be indexed to the crude oil price. **The price of such natural gas shall be 10 per cent of the monthly average of Indian Crude Basket and shall be notified on a monthly basis.** The gas produced by ONGC and OIL from their nomination blocks and the administered price mechanism (APM) shall be subject to a floor and a ceiling. However, the gas produced from new wells or well interventions in the nomination fields would be allowed a premium of 20 per cent over the APM



price. There shall be no revision in the ceiling price for two years, after which the cap will increase by 25 % per year. **The changes in pricing formula for domestic APM gas do not apply to gas production from difficult acreages — deep water, ultra-deep water, high-temperature, and high-pressure fields.**

4. **LIGO-India Project:** LIGO-India will be an advanced gravitational-wave observatory to be located in Maharashtra, India, as part of a worldwide network. It is envisaged as a collaborative project between a consortium of Indian research institutions and the LIGO Laboratory in the USA, along with its international partners. It will be **built by the Department of Atomic Energy and the Department of Science and Technology**, with a memorandum of understanding (MoU) with the National Science Foundation, the US, along with several national and international research and academic institutions. **LIGO is the world's most powerful observatory** that exploits the physical properties of light and of space itself to detect and understand the origins of gravitational waves. At the moment, there are **two such observatories in the US.**

#### 8th April

1. **Idu Mishmi Tribe:** they are a sub-tribe of the larger animists Mishmi group (the other two Mishmi groups are Digaru and Miju) in Arunachal Pradesh and neighbouring Tibet. They are known for their weaving, craftsmanship skill and typical hairstyle, distinctive customs and artistic pattern embedded on their clothes. **The tribe is estimated to comprise around 12,000 people (as per the census 2011).**  
**Language:** Their language, called 'Idu Mishmi', is considered **endangered by UNESCO**. Tigers are especially important to the Idu Mishmis — according to Idu mythology, they were born to the same mother, and thus, tigers are their "elder brothers". While hunting has traditionally been a way of life, the Idu Mishmis also follow a strict belief system of myths and taboos — **'iyu-ena'** — that restrict them from hunting many animals, including a **complete prohibition on killing tigers.**
2. **National Mission for Cultural Mapping:** launched in **2017 for 3 years**, by the Union Ministry of Culture, it aims to develop a comprehensive database of art forms, artists and other resources across the country. The **Government has identified and documented distinctive features of more than one lakh villages across the country.** In this cultural asset mapping, villages have been broadly divided into seven-eight categories based on mythological

ecological, developmental and scholastic importance. **Detailed field surveys were carried out by joint teams of the Culture Ministry and the Common Services Centres (CSC), under Meity.**

3. **Artemis II Mission:** It will be the first mission to carry humans to the moon's vicinity since 1972. It is the **second scheduled flight of the Artemis program and the first crewed Artemis mission.** In this, four astronauts will fly around the moon before returning to Earth. It will use the huge Space Launch System (SLS) mega-rocket and Orion spacecraft to launch the crew on the lunar flyby mission.
4. **5th cycle of the All India Tiger Estimation:** India's tiger population rose by 200 in the past four years to reach 3,167 in 2022. The number of tigers has almost doubled in the last two decades in the country. **75 per cent of the world's tiger population can now be found in India.** The tiger population has grown the most in the **Shivalik hills and Gangetic flood plains, followed by central India, the north eastern hills, the Brahmaputra flood plains, and the Sundarbans.** The Western Ghats, which are home to the largest tiger population in the world, have shown a significant fall in the occupancy of tigers. **The north-western states such as Uttarakhand and Uttar Pradesh now have more tigers outside reserves, requiring officials to step up habitat conservation.**
5. **Pramana:** Pramana is a valid means of knowledge. Knowledge can be valid or invalid, **valid knowledge** is called **praman** and **non-valid knowledge** is known as **aprama.** **There are six types of Pramana:** Pratyaksha (Perception); Anumana (Inference); Upamana (Comparison and Analogy); Arthapatti (Postulation); Anupalabdhi (Non-apprehension); Sabda (Verbal Testimony)

#### 10th April

1. **5th cycle of Management Effectiveness Evaluation (MEE):** India is the only country in the world that has institutionalized the MEE process. The MEE results suggested an overall improvement in the management effectiveness of the tiger reserves. **In the 5th cycle, there are 12 Tiger Reserves that have scored 90% and above and thus a new category of 'Excellent' has been added. None of the tiger reserves was graded as 'Poor'.** The report, however, points out that the headline indicator — 'carbon capture and climate change' — has received the lowest score in the current cycle, as there is no mandate for it in Tiger Conservation Plans. **Periyar**



reserve has obtained an MEE score of 94.3% followed by Satpura Tiger Reserve in Madhya Pradesh, Bandipur in Karnataka and Nagarhole in Karnataka. Two newly declared tiger reserves, Ramgarh Visdhari and Ranipur, have not been included in the current cycle of MEE.

- 2. Periyar Tiger Reserve:** It is located in the Western Ghats of Kerala. It was declared a Tiger Reserve in 1978. Highest peak is Kottamala (2016m). Two main rivers, Pamba and Periyar, drain the reserve. It is home to many tribal communities, including the Mannans and the Palians. It is also being considered the habitat of the elusive Nilgiri Tahr.
- 3. State Energy Efficiency Index Report 2021-22:** It is developed by the Bureau of Energy Efficiency (BEE) in association with Alliance for an Energy-Efficient Economy (AEEE). SEEI 2021-22 has an updated framework of 50 indicators aligned with national priorities. 5 states – Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana – are in the Front Runner category (>60 points) Telangana and Andhra Pradesh showed the most improvement since the last index.
- 4. UN Democracy Fund:** It was created by the former UN Secretary-General Kofi Annan in 2005 as a United Nations General Trust Fund to support democratization efforts around the world. It is used to empower civil society, promote human rights, and encourage the participation of all groups in democratic processes. India is a founding member of UNDEF.

**Funding:** It subsists entirely on voluntary contributions from Governments

**Advisory Board:** It is constituted by the Secretary-General and includes UN Member States who have made the largest cumulative financial contributions to the Fund over the previous three years, International civil society organizations and Individuals serving in a personal capacity. India is the 4th highest donor

- 5. LANGUAGE FRIENDSHIP BRIDGE:** The Indian Council for Cultural Relations (ICCR) has envisaged a special project called 'The Language Friendship Bridge', which plans to train five to 10 people in the official languages of Myanmar, Sri Lanka, Uzbekistan, Indonesia. As of now, the ICCR has zeroed in on 10 languages: Kazakh, Uzbek, Bhutanese, Ghoti (spoken in Tibet), Burmese, Khmer (spoken in Cambodia), Thai, Sinhalese and Bahasa (spoken in both Indonesia and Malaysia).

ICCR, is an autonomous organisation of the Government of India, involved in India's global cultural relations, through cultural exchange with other countries and their people. It was founded on 9 April 1950 by Maulana Abul Kalam Azad, the first Education Minister of independent India.

#### 11th April

- 1. International Prize in Statistics:** It was established in 2016 and is awarded biennially to an individual or team for achievements using statistics to advance science, technology etc. It is considered equivalent to the Nobel Prize in the field of statistics. The ultimate goal of the International Prize in Statistics is to enhance public understanding of the depth and scope of statistics. It is managed by the five major statistical organizations: the American Statistical Association; Institute of Mathematical Statistics; International Biometric Society; International Statistical Institute; and Royal Statistical Society. The Indian-American statistician Calyampudi Radhakrishna Rao has been awarded the 2023 International Prize in Statistics.
- 2. National party:** The Aam Aadmi Party (AAP) was recognised as a national party by the Election Commission while suspending the national party status of the All India Trinamool Congress, the Nationalist Congress Party (NCP), and the Communist Party of India (CPI). The Election Symbols (Reservation and Allotment) Order, 1968 stipulates the criteria for recognition as a national or state party which is in its 'Political Parties and Election Symbols, 2019' handbook. After the first general elections, only four parties retained their national status: the Congress, the Praja Socialist Party, the Communist Party of India, and the Jana Sangh. Now there are 6 National Parties in India: BJP, CPI-Marxist, INC, National People's Party (NPP), BSP and Aam Aadmi Party (AAP)
- 3. The Deemed Forest Case of SC:** There is no comprehensive definition for "forests" in India. The ambiguity around this term was clarified by the Supreme Court in T N Godavarman Thirumulpad case where it defined "forest" to include any piece of land that resembles the dictionary meaning of forest for the purpose of the Forest (Conservation) Act, 1980. This case also conceptualized "deemed forests" Deemed forests were conceived as areas those has not been notified under the legislation, but are recorded as forests in government records. These are lands that have characteristics of forests, irrespective of ownership. Once forests are "deemed", they cannot be de-reserved or utilized

**for non-forest purposes without prior approval of the Centre. Deemed forests, comprise about 1% of India's forest.** In Godavarman case the Court ordered the setting up of expert committees in each state to identify deemed forests to remove any ambiguities. This decision paved the way for the preservation of forest areas in India to be continuously monitored by the Supreme Court, mandating the state governments to obtain clearances for affecting or implementing changes to lands classified as deemed forests.

- 4. Process of Inclusion in the ST List-** The process to include tribes in the ST list begins with the recommendation 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. This is followed by the National Commission for Scheduled Tribes' approval before the list is sent to the Cabinet for a final decision. **The recognition of STs is done at the state level rather than at the national level.** States. **Punjab, Haryana, Chandigarh, Delhi and Puducherry have no population of Scheduled Tribes as per Census 2011** As per Article 342, the Parliament has the power to amend the list of STs. Such amendment may either include or exclude a community from the ST list. The process of adding or removing a community from the ST list does not require a formal amendment of the Constitution.
- 5. KURMI COMMUNITY:** Kurmi is a non-elite tiller caste in India's lower Gangetic plain, particularly in the southern regions of Awadh, eastern Uttar Pradesh, and parts of Bihar. The Kurmis earned praise from Mughal and British administrations for their remarkable work ethic, superior tillage and manuring, and gender-neutral society. **The Kurmi community is now categorised as OBC in Odisha, West Bengal, and Jharkhand, with the Odisha Government additionally recognising the community as Socially and Educationally Backward Classes. State Governments of Jharkhand and West Bengal have consistently suggested that this community be added to the ST list.**

**12th April**

- 1. Prevention of money laundering Act:** The Finance Ministry has amended money laundering rules to incorporate more disclosures for non-governmental organisations by reporting entities like financial institutions, banking companies or intermediaries. **It has also defined "politically exposed persons" (PEPs) under the Prevention of Money Laundering Act (PMLA).** The amendment is in relation to foreign

PEPs and not domestic ones. The amendment now considers an individual or group holding 10% ownership of reporting entities (such as banks, financial institutions, or any organization or business operating in real estate) as the beneficial owner. The previous threshold was 25% ownership. As per the recent amendments, reporting entities are now required to register details of the client if it's a non-profit organisation on the DARPAN portal. NGO-DARPAN, a platform that provides space for interface between Non-Government organizations (NGOs)/ Voluntary Organizations (VOs) in the country and key Government Ministries / Departments / Government Bodies. Initially an initiative of PMO, now it is an **e-governance application offered by NITI Aayog to electronically maintain data and transparency regarding NGOs/VOs in the country.**

- 2. Dam safety in India:** Of the operational dams, 234 have outlived their lifespan of 100 years (some even older than 300 years). Parliamentary Committee over the safety of ageing dams flagged 36 dam disasters. **The worst was the 1979 Machhu dam disaster in Morbi, Gujarat. Under the 7th Schedule, water and water storage is a state subject.** The existing dam safety regulations are part of the Environmental Impact Assessment (EIA) under the EPA. At the national level, the Central Water Commission (CWC) under Ministry of Jal Shakti, issued guidelines for: Dam Safety Procedures; Safety Inspection of Dams; Development and Implementation of Emergency Action Plan (EAP) for Dams; etc. **Central Water Commission (CWC) compiles and maintains nation-wide register of Large Dams i.e. National Register of Large Dams (NRLD)**
- 3. Earth for All:** It is a collective initiative of leading economic thinkers, scientists, and advocates. It is convened by **The Club of Rome, the Potsdam Institute for Climate Impact Research, the Stockholm Resilience Centre and the Norwegian Business School.** It is guided by a Transformational Economics Commission, made up of economic thinkers from across the globe to explore new economic thinking and test the model outcomes. The researchers advance two scenarios: Too Little, Too Late: predicts that if economic development continues as it has in the last five decades, the world's population would peak at 8.6 billion in 2050, and decline to 7 billion by 2100 and **The Giant Leap:** the researchers conclude that the population will peak at 8.5 billion by 2040 but then rapidly decline to around 6 billion by 2100. **The Earth4All report contradicted the U.N. 'World Populations Prospects 2022' report, which predicted that the**

global population would steadily rise to 10.4 billion in 2080 and then stabilise around that number in 2100.

4. **Livestock Insurance Scheme:** Less than 1% of the country's cattle population is currently insured. Launched in Year 2008-09, it is a Centrally sponsored scheme by Department of Animal Husbandry, Dairying & Fisheries. **It is implemented in 100 selected districts**, with a maximum of 2 animals per beneficiary for a maximum of three years and 100% subsidy cost borne by Central Government. **All states have implemented the scheme (except Goa) through the State Livestock Development Boards of their respective states.**
5. **Mifepristone:** Medication abortion is a regimen of pills women can take at home, a method increasingly used around the world. Mifepristone, blocks a hormone called progesterone that is necessary for a pregnancy to continue. Misoprostol, brings on uterine contractions.

#### 13th April

1. **Gond Painting:** Recently, the famous **Gond painting** of Madhya Pradesh has **received the prestigious Geographical Indication (GI) tag**.  
**Themes:** Gond tribes are highly interlinked with nature and this appears in their paintings too they include animals, mahua tree, mythological stories, Hindu gods, Local deities and folktales etc.  
**The Gonds are the largest tribal Community in India and can be traced to the pre-Aryan era.**  
They live in the states of Madhya Pradesh, Maharashtra, Telangana, Andhra Pradesh, Bihar, and Odisha.
2. **JUICE (Jupiter Icy Moons Explorer):** The JUICE mission will be the first time that the European Space Agency (ESA) has sent a spacecraft beyond the asteroid belt. **It is the first large-class mission in the ESA Cosmic Vision 2015-2025 programme.** The spacecraft will launch on an **Ariane 5 in April 2023 on an eight-year journey including gravity assist flybys of Earth and Venus before arriving in the Jupiter system in 2031.** It will spend at least three years making detailed observations of the giant gaseous planet Jupiter and three of its largest moons, Ganymede, Callisto and Europa. Juice isn't equipped to detect life but can find out whether there could be places around Jupiter, inside the icy moons, where the necessary conditions, such as water, biological essential elements, energy, and

stability, to sustain life are present. **NASA and JAXA both have contributed instruments to the mission**

3. **Puthandu:** It is celebrated on the first day of Chithirai (Tamil month) and it also marks the **beginning of the Tamil New Year**. It is also **commonly known as Varsha Pirappu**. It marks the arrival of the spring season. It falls on the same day almost every year according to the Gregorian Calendar. **Puthandu is celebrated elsewhere in India under different names commemorating the solar new year.** Some examples include: Vishu in Kerala, Vaisakhi in Punjab, Haryana, Himachal Pradesh, NCT of Delhi, Uttar Pradesh, Uttarakhand, Rajasthan, Bihar, Jharkhand, Madhya Pradesh and Chhattisgarh, Pana Sankranti in Odisha, Pohela Boishakh in West Bengal and Tripura, Rongali Bihu in Assam
4. **UTTARAMERUR INSCRIPTION:** It lies in present-day Kanchipuram district in Tamil Nadu. **It is known for its historic temples built during Pallava and Chola rule.** The famous inscription from Parantaka I's reign is found on the walls of the Vaikunda Perumal Temple and describes processes of village self-governance. **The inscription gives details of the functioning of the local sabha, i.e. the village assembly.** A sabha was an assembly exclusively of brahmins and had specialised committees tasked with different things. There will be 30 wards. Everyone living in these 30 wards would assemble and select one representative for the village assembly. It mentions the qualifications and disqualifications and talks about 5 committees: Samvatsara-Variyam, Totta-Variyam, Eri-Variyam, Panchavara-Variyam, Pon-Variyam
5. **Magneto-resistance:** It is the result of the electrical resistance of a conductor affected by magnetic fields in adjacent materials.  
**Applications:** It is used in hard disk drives and magneto resistive RAM in computers, biosensors, automotive sensors, microelectromechanical systems, and medical imagers etc. **Recently, researchers in the UK, have found that graphene displays an anomalous giant magneto-resistance (GMR) at room temperature.** It is composed of monolayer of closely packed carbon atoms that form a hexagonal honeycomb lattice. It is the thinnest, most electrically and thermally conductive material in the world. **It is also tremendously strong—about 200 times stronger than steel** and flexible, as well as transparent. It is also known as a



wonder material due to its vast potential in the energy and medical world.

#### 14th April

- 1. Doctrine of promissory estoppel:** It is a doctrine in contract law which enforces a promise whether executed as a contract or not. It **prevents a “promisor” from backing out of an agreement on the grounds that there is no “consideration.** In the Chhaganlal Keshavalal Mehta v. Patel Narandas Haribhai (1981) case, the Supreme Court listed out a checklist for when the doctrine can be applied. **Firstly**, there must be a clear and unambiguous promise. **Secondly**, the plaintiff must have acted relying reasonably on that promise. **Thirdly**, the plaintiff must have suffered a loss. Supreme court observed that promissory estoppel will not apply when a larger public interest is involved.
- 2. Central Sponsored Schemes:** These are schemes that are funded partially by both the Central and State Governments. Their implementation rests on the Union territories and the States. **The flagship schemes of the central government are called Core of Core schemes or umbrella schemes. It includes: National Social Assistance Program, MGNREGA, Umbrella Scheme for Development of Scheduled Castes, Umbrella Programme for Development of Scheduled Tribes, Umbrella Programme for Development of Minorities and Umbrella Programme for Development of Other Vulnerable Groups**  
**Core schemes:** The funding pattern is usually **60:40**. For North Eastern states, Jammu & Kashmir, and some special category states, a 90:10 ratio of funding can be seen usually.  
**Optional schemes:** Normally state governments plan the schemes and request the central government to fund some portion of the total outlay. **The general funding pattern of the optional schemes is 50:50 (State: Centre)** Recently, the central government has for the first time has brought in a ‘penal interest’ clause for delays in fund transfers by states.
- 3. Important Judgements related to RPA:** Commachen case: seeking votes on religion violates RPA 123(3) Lily Thomas case: struck down sec 8(4) OF RPA ADR vs UOI: Mandated disclosures relating to criminal antecedents, educational qualification and personal assets of contesting candidates Public interest foundation and ORS vs UOI: sitting MP/MLA cases be concluded within a year of charges against them being framed.

**4. Dabba Trading:** Dabba (box) trading refers to informal trading that takes place outside the purview of the stock exchanges. Traders bet on stock price movements without incurring a real transaction to take physical ownership of a particular stock as is done in an exchange. In simple words, it is gambling centred around stock price movements. The primary purpose of such trades is to stay outside the purview of the regulatory mechanism, and thus, transactions are facilitated using cash and the mechanism is operated using unrecognised software terminals. **‘Dabba trading’ is recognised as an offence under Section 23(1) of the Securities Contracts (Regulation) Act (SCRA), 1956 and upon conviction, can invite imprisonment for a term extending up to 10 years or a fine up to ₹25 crore, or both.**

**5. Group of Five (G-5):** It is a country grouping that includes Brazil, China, India, Mexico, and South Africa. The 2003 summit of the **G-8 included the participation of the five largest emerging economies: Brazil, China, India, Mexico, and South Africa.** This gathering was later referred to as the “G8+5” at the 2005 summit. By 2007, the countries were known as the G-5 The G-5’s website is no longer available, but an archived version says the group “plays an active role in the transformation of the international landscape with the **objective of promoting dialogue and understanding between developing countries and developed ones in order to find common solutions to global challenges.”**

#### 15th April

- 1. Chagas Disease:** Also called American trypanosomiasis, it is a communicable parasitic disease caused by the parasite protozoan Trypanosoma cruzi. **The parasites are mainly transmitted by a family of bugs called ‘triatomines’, also known as the ‘kissing bug’.** An individual can also contract this disease through congenital transmission (pregnant woman to their baby), blood transfusions, organ transplantation etc. The disease cannot propagate by casual contact with infected humans or animals. The disease remains most prevalent in Latin America. **There are currently no vaccines available for Chagas disease, but it is treatable.**
- 2. Maternity Benefits (Amendment) Act 2017:** It amended Section 5 of the earlier Act to allow **for 26 weeks of paid leave following childbirth, but only for biological mothers.** It added Section 5(4), which states that adoptive or surrogate mothers who legally adopt a child under the age of three months are eligible for maternity benefits for 12 weeks from



the day the infant is handed over to the mother. **Section 11 of the amended Act added that “every establishment having fifty or more employees shall have the facility of creche within such distance as may be prescribed, either separately or along with common facilities.”** It is also required that the employer provide the woman with four visits to the creche every day, as well as rest periods for her.

3. **Dalai Lama:** The Dalai Lama belongs to the Gelugpa tradition of Tibetan Buddhism, which is the largest and most influential tradition in Tibet. There have been **only 14 Dalai Lamas in the history of Tibetan Buddhism, and the first and second Dalai Lamas were given the title posthumously.** The Dalai Lamas are believed by Tibetan Buddhists to be manifestations of Avalokiteshvara or Chenrezig, the Bodhisattva of Compassion and the patron saint of Tibet. According to Buddhist scholars it is the responsibility of the High Lamas of the Gelugpa tradition and the Tibetan government to seek out and find the next Dalai Lama following the death of the incumbent. The training process of Dalai Lama can take years.
4. **Saurashtra Tamil Sangamam:** It is a festival that **celebrates the cultural connections between Saurashtra in Gujarat and Tamil Nadu.** The festival highlights the migration of people from Saurashtra in Gujarat to Tamil Nadu’s districts around Madurai, now known as Tamil Saurashtrian, between 600 and 1000 years ago. The festival will take place at **multiple locations in Gujarat, including Somnath, Dwarka, and the Statue of Unity at Kevadia.**
5. **Logo of Saurashtra Tamil Sangamam:** It is a representation of the merging of the silk fabric expertise of the Tamil Saurashtrian people and the textile industry of Gujarat. **The confluence of the two cultures is depicted through the Somnath temple, the place of origin of the Saurashtrians, and the Meenakshi temple near Madurai, where they settled.** A young woman, posing in a dancing posture with dandiya (Gujarat) and bharatanatyam (Tamil Nadu), embodies the coming together of two art forms. The upper tricolour signifies the message of **‘Ek Bharat Shreshtha Bharat,’** while the blue colour on the lower side symbolises the merging of the two states with the sea.

**17th April**

1. **GREAT PACIFIC GARBAGE PATCH:** It is a garbage patch, gyre of marine debris particles, in the central North Pacific Ocean. The collection of plastic and floating trash originates from the Pacific Rim,

including countries in Asia, North America, and South America. North Pacific Subtropical Gyre (NPSG) consists of the Kuroshio, North Pacific, California, and North Equatorial currents. **It moves in a clockwise direction.** These currents flow adjacent to 51 Pacific Rim countries. Any trash that enters one of these currents, from any of these countries, could become part of the gyre. Inside this gyre, just north of Hawai’i, lies a long east-west strip where some of the debris in these currents has collected over the years. The eastern part of this is the Great Pacific Garbage Patch. It is more than 50 years old. **According to scientists it is the largest plastic dump on earth with 80% of the plastic originating from land**

2. **Neopelagic Community:** The introduction of a vast sea of relatively permanent anthropogenic rafts since the 1950s” has given rise to a new kind of “standing coastal community ... in the open ocean”. They have **named it the neopelagic community.** While coastal species have been found on human-made objects in the open ocean before, they were **always considered to have been “misplaced” from their intended habitats.** The neopelagic community, on the other hand, is not misplaced but lives on plastic items in the garbage patch, including reproducing there.
3. **MAHARISHI Initiative: G20 Meeting of Agricultural Chief Scientists (MACS) in Varanasi** will feature the MAHARISHI Initiative, which stands for Millets And Other Ancient Grains International research Initiative.  
**Secretariat:** Indian Institute of Millets Research (IIMR), Hyderabad Technical Support: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), One CGIAR Centres, and other international organizations. **MAHARISHI Initiative will focus on Research and Awareness about agrobiodiversity, food security, and nutrition aligning with International Year of Millets 2023.**
4. **Polar crown prominence (PCP):** These are similar to normal solar prominences, which are loops of plasma, or ionized gas, that is ejected from the solar surface by magnetic fields. **They occur near the sun’s magnetic poles at latitudes between 60 and 70 degrees North and South.** Due to the much stronger magnetic fields near the poles they collapse back towards the sun. This collapse back to the sun has earned them the nickname “plasma waterfalls.” Solar prominence is a large, bright feature extending outward from the Sun’s surface. These are anchored to the Sun’s surface in the

photosphere, and extend outwards into the Sun's hot outer atmosphere, called the corona.

5. **G7 ministers meet:** They stopped short of endorsing a 2030 deadline for phasing out coal that Canada and other members had pushed for but agreed to prioritise "concrete and timely steps" towards accelerating the phase-out of "domestic, unabated coal power generation", as a part of a commitment to **decarbonise power sector by 2035**. The members pledged to collectively increase offshore wind capacity by 150 gigawatts by 2030 and solar capacity to more than 1 terawatt. They agreed to accelerate "the phase-out of unabated fossil fuels" without using technology to capture the resulting CO<sub>2</sub> emissions to achieve net zero in energy systems by 2050. They left the door open for continued investment in gas **They targeted 2040 for reducing additional plastic pollution to zero, bringing the target forward by a decade**. India participates as a guest country.

#### 18th April

1. **G7:** It is an intergovernmental organisation of leading industrialised nations formed in 1975. **Member countries:** Canada, France, Germany, Italy, Japan, the UK and the United State. **It meets annually to discuss issues such as global economic governance, international security, and energy policy.** The host of the G7 summit, the presidency, rotates annually among member countries. It was formerly referred to as the G-8 until Russia was suspended from the group in 2014 after annexing Crimea. **As of 2022, G7 countries make up 10% of the world's population, 31% of the global GDP, and 21% of global carbon dioxide emissions.**
2. **Starship:** Together, the Starship spacecraft and the Super Heavy rocket are collectively referred to as Starship. They represent the next generation of SpaceX's launch systems, designed to carry both astronauts and cargo to Earth's orbit, the Moon, Mars, and maybe even beyond. **Starship could become the most powerful launch system ever developed by humanity, with the capability to carry a payload of up to 150 metric tonnes in "fully-reusable" mode and 250 metric tonnes in expendable mode.** The Starship spacecraft is the second stage of the Starship system. According to SpaceX, **Starship is also capable of point-to-point transport on Earth.** It will have a payload capacity of between 100 tonnes and 150 tonnes Super Heavy: it is the first stage of Starship. Starship will be completely reusable and after launch, it will re-

enter Earth's atmosphere to land back at the launch site.

3. **Raptor-vacuum (R-Vac):** The Raptor Vacuum (RVac) engine will have a design similar to the standard Raptor engine. The difference with RVac is that it will feature a larger expansion nozzle so that the engine's efficiency in space is maximised. **The Starship spacecraft will be powered by three RVacs along with three standard raptor engines.**
4. **Mangrove Pitta:** It is a species of passerine bird in the Pittidae family native to Southeast Asia and South Asia. It is found in mangrove and nipa palm forests and feeds on crustaceans and insects. **Conservation Status:** IUCN: Near Threatened

Odisha forest officials have recently **sighted 179 mangrove pitta birds in the first ever census conducted of these exotic and colourful birds in the country.** A passerine is a member of the order Passeriformes, the largest order of birds, containing more than half of all species. They are also known as perching birds or, less accurately, as songbirds. **Passerines are all terrestrial, found on all continents except Antarctica.**

5. **Electromagnetic Ion Cyclotron (EMIC) waves:** These are the discreet electromagnetic emissions observed in the Earth's magnetosphere. **These waves are generated in the equatorial latitudes and propagate along magnetic field lines to their footprint in the high-latitude ionosphere.** Their signatures can be recorded in both spaces as well as ground-based magnetometers. These waves are higher during magnetically disturbed days. The dependence of EMIC occurrence on solar flux is evident and they are more frequent during the descending phase of the solar cycle. The interesting observational feature is the peak occurrence of EMIC in the noon-dusk sector, which is attributed to the presence of plasma plumes at that time in the Earth's magnetosphere.

#### 19th April

1. **Blastomycosis:** It is an infection caused by a **fungus of the genus Blastomyces**. It is found in moist soil and decomposing wood and leaves in US and can get dispersed in the air and travel freely. **Human beings can contract blastomycosis by inhaling the spores.** It is not contagious between animals and people through the air. The symptoms of blastomycosis in animals are similar to the symptoms in humans.

2. **Supreme Court verdicts on LGBTQ rights:** 'Suresh Koushal v Union of India' (2013) upheld the constitutional validity of **Section 377 of the Indian Penal Code** NALSA v Union of India (2014): the court affirmed the constitutional rights of transgender persons under Articles 14, 15, 19 and 21 of the Constitution.
  - **KS Puttaswamy v Union of India (2017):** a nine-judge Bench of the Supreme Court unanimously recognised the right to privacy as a fundamental right under the Constitution. Sexual orientation is an essential component of identity.
  - **Shafin Jahan v Union of India (2018):** The ruling recognised the right to choose one's partner as a facet of the fundamental right to liberty and dignity.
  - **Shakti Vahini v Union of India (2018):** In the ruling, the Court recognised the right to choose a life partner as a fundamental right.
  - **Navtej Johar v Union of India (2018):** A five-judge Constitution Bench struck down IPC Section 377 to the extent that it criminalised homosexuality.
  - **Deepika Singh vs Central Administrative Tribunal (2022):** The ruling recognised "atypical" families, including queer marriages, which could not be confined in the traditional parenting roles.
3. **Deadnaming:** A deadname is essentially the name that a **trans, non-binary, and/or gender-expansive person** was called before they adopted a more self-affirming name. **The act of, intentionally or not, calling a trans, non-binary, and/or gender-expansive person by the deadname is known as deadnaming,** which can lead to adverse consequences. Deadnaming is harmful because refusing to use a person's chosen name or pronouns is a form of transphobia or cissexism. Twitter has removed a policy that prohibited misgendering or deadnaming of transgender people on the social media platform.
4. **Tangsa Naga:** The Tangshang people, also known as the Tangsa Naga, are a Tibeto-Burmese ethnic group inhabiting the Northeast Indian states of Arunachal Pradesh and Assam, and across the border in Sagaing Region and parts of Kachin State of Myanmar. **They are a scheduled group under the Indian Constitution (where they are listed under 'other Naga tribes')** and there are many sub-groups within Tangsa on both sides of the border.
5. **TeLEOS-2:** It is a **Singaporean Earth Observation satellite built by ST Electronics (Satellite Systems).** It is designed to capture satellite imagery in all-weather and round-the-clock conditions. The 750 kg satellite will be launched into a Low Earth Orbit. **It carries a made-in-Singapore Synthetic Aperture**

**Radar (SAR) capable of providing 1 m resolution data.**

**Applications:** It will provide high-resolution imagery for various applications such as disaster management, resource monitoring, and environmental monitoring. **ISRO will soon launch Singapore's TeLEOS-2 satellite from the Satish Dhawan Space Centre in Sriharikota using the Polar Satellite Launch Vehicle (PSLV).**

**20th April**

1. **Limited Purpose Clearing Corporation:** It is an entity established to undertake the activity of clearing and settlement of repo transactions. The disputes arising between clearing members of the LPCC will be settled by conciliation and/or by an arbitration panel consisting of three clearing members, other than the clearing members who are party to the dispute. **The decision of the arbitration panel would be final and binding on the parties.** In case a clearing member or the LPCC is not satisfied then the disputes would be resolved under the procedure laid down in the Payment and Settlement Systems Act, 2007.
2. **YZ Ceti b:** It is a rocky, Earth-sized exoplanet rotating around a **small red dwarf star only 12 light-years away from Earth.** Astronomers have detected a repeating radio signal from YZ Ceti b. **This discovery suggests the presence of a magnetic field around the planet, which is one of the prerequisites for a habitable planet.** The radio signals detected from YZ Ceti b are a result of the interaction between the planet's magnetic field and the star. Such signals can only be produced if the exoplanet orbits very close to its parent star and has its own magnetic field to influence the stellar wind and generate the signals. The magnetic field is important because the survival of a planet's atmosphere may well depend on its having, or not having, a strong magnetic field, since the field protects its atmosphere from being eroded by the charged particles blowing in from its star.
3. **Red Dwarf Stars:** Red dwarf stars are **small, low-mass, dim, and cool stars, they are the most common and smallest in the universe.** As they don't radiate much light, it's very tough to detect them with the naked eye from Earth. However, as red dwarfs are dimmer than other stars, it is easier to find exoplanets that surround them. Therefore, red dwarfs are a popular target for planet hunting.



4. **Cinematograph (Amendment) Bill 2023:** It seeks to amend the Cinematograph Act 1952. It has provisions to classify films on the basis of age group instead of the current practice of rating them “U” (unrestricted public exhibition), “A” (restricted to adult audiences), and “UA” (unrestricted public exhibition subject to parental guidance for children below the age of 12). The amendments seek to add new classifications – ‘UA-7+’, ‘UA-13+’, and ‘UA-16+’ in place for 12 years. The Bill holds stricter punishment for those responsible for piracy. This includes three years of imprisonment and a Rs 10 lakh penalty for those engaged in piracy. Once the Bill is released, the act of piracy will be considered an offence legally and will include even transmitting pirated content punishable.

5. **Central Board of Film Certification:** It is a statutory body under the Ministry of Information and Broadcasting, under the Cinematograph Act 1952. The Board consists of non-official members and a Chairman (all of whom are appointed by Central Government) and functions with headquarters at Mumbai. The Board scrutinizes the film in its entirety and based on the contemporary standard of Indian society following the procedure laid down under the Act. Board can either make a speaking order of rejection or grant the certificate, which shall be valid for ten years.

#### 21st April

1. **Hakki-Pikki tribe:** They are a semi-nomadic tribal group belonging to the state of Karnataka. The community is known as the ‘bird catcher,’ which is their traditional occupation. The population is predominantly found in the Shivamogga, Davanagere and Mysuru districts. Their mother tongue was designated as ‘Vaagri’ and is listed as endangered language by UNESCO. They have traditional medical knowledge that is in demand in several African countries. The community resided in the dense jungles for a long time and created its own plant and herb-based medicine systems.
2. **Polar Satellite Launch Vehicle (PSLV) C-55:** ISRO, is scheduled to launch PSLV-C55 mission with Singapore’s TeLEOS-2 as primary satellite and Lumelite-4 as a co-passenger satellite. The PSLV-C55 mission will be the 57th flight of PSLV and the 16th mission using the PSLV Core Alone configuration. The PSLV C55 rocket has four stages; each one was self-contained, with its own propulsion system, thereby capable of functioning independently. The first and third stages used

composite solid propellants. The second and fourth stage use earth-storable liquid propellant.

**LUMELITE-4:** developed by Singapore, it is an advanced 12U satellite designed for the technology demonstration of the High-Performance Spaceborne VHF Data Exchange System (VDES). Using the VDES communication payload Lumelite-4 aims to augment Singapore’s e-navigation maritime safety and benefit the global shipping community.

3. **First-ever census of water bodies:** Conducted by the Ministry of Jal Shakti in convergence with the Sixth Minor Irrigation Census under the Centrally Sponsored Scheme – “Irrigation Census”. The census defines a water body as all natural or man-made units bounded on all sides with some or no masonry work used for storing water for Irrigation or Other purposes (example industrial, pisciculture, domestic/drinking, recreation, religious, groundwater recharge, etc). A structure where water from ice-melt, streams, springs, rain or drainage of water from residential or other areas is accumulated will also be treated as a waterbody. **West Bengal has most (7.47 lakh) and Sikkim the least (134) number of water bodies. States with most: Ponds and reservoirs: West Bengal; Tanks: Andhra Pradesh; Lakes: Tamil Nadu; Water conservation schemes: Maharashtra. West Bengal’s South 24 Parganas: district with most water bodies across the country. 97% water bodies are located in rural areas.** Decreasing order of water bodies: ponds (59%), followed by tanks, reservoirs, water conservation schemes/percolation tanks/check dams, lakes and others
4. **Middle East quartet:** The Quartet, set up in 2002, consists of the United Nations, the European Union, the United States and Russia. Its mandate is to help mediate Middle East peace negotiations and to support Palestinian economic development and institution-building in preparation for eventual statehood. It meets regularly at the level of the Quartet Principals (United Nations Secretary General, United States Secretary of State, Foreign Minister of Russia, and High Representative of the European Union for Foreign Affairs and Security Policy) and the Quartet Special Envoys.
5. **Indian Nutrition Ratings (INR):** FSSAI released a draft notification for front-of-pack labelling which would be known as the Indian Nutrition Rating (INR). It mandates pre-packaged foods to carry a star rating similar to the energy-efficiency ratings on electronic goods, to discourage the consumption of foods high in sugar, salt and fats.



It provides 1 to 5 stars based on how healthy the product is, with 5 being healthiest and 1 for least healthy. Food such as milk and milk products, whey, butter oil, ghee, vegetable oil and fat, fresh and frozen fruit and vegetables, fresh and frozen meat, egg, fish, flour, and sweeteners will not have to display the star rating. Carbonated beverages without any energy or sugar will also not be eligible for declaring the rating.

#### 22nd April

1. **C+C5:** China convened an **online meeting of trade ministers of the grouping known as C+C5 — China and the five Central Asian republics**, namely Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, and Kyrgyzstan. **The first C+C5 summit was held in virtual format last year, to commemorate the 30th anniversary of diplomatic relations.** Diplomatic relations were established in January 1992, and China's relationship with the region was institutionalised as the Shanghai Five, the forerunner of the Shanghai Cooperation Organisation (SCO).
2. **Stockholm Agreement:** The main warring sides in Yemen are the Iran-backed Houthis and the pro-Yemen government, Saudi-led coalition. The warring parties in control of parts of Yemen had signed the Stockholm Agreement in December 2018 whereby they had committed to freeing conflict-related detainees. **The agreement brokered by the United Nations had three main components — the Hudayah agreement, the prisoner exchange agreement, and the Taiz agreement.** The Hudayah agreement included a ceasefire in the city of Hodeidah and other clauses like no military reinforcements in the city and strengthened UN presence. The Taiz agreement includes the formation of a joint committee with participation from civil society and the UN.
3. **Jagdish Chandra Bose:** He was a **Plant Physiologist** and physicist who **invented the crescograph, a device for measuring the growth of plants.** He for the first time showed that plants have feelings. Bose discovered wireless communication and was named **the Father of Radio Science by the Institute of Electrical and Electronics Engineering.** Bose is widely believed to be the first one to generate electromagnetic signals in the microwave range. He was responsible for the expansion of experimental science in India. **Bose is considered the father of Bengali science fiction.** A crater on the moon has been named in his honour. He **founded Bose Institute, a premier research institute of India and also one of its oldest. Established in 1917, the**

**Institute was the first interdisciplinary research centre in Asia.** His books include Response in the Living and Non-Living (1902) and The Nervous Mechanism of Plants (1926).

4. **National Quantum Mission (NQM):** NQM will fund research and development of quantum computing technology and associated applications. The mission will have defined milestones that are expected to be achieved over the course of eight years (2023-24 to 2030-31). **India is the sixth country to have a dedicated quantum mission after the US, Austria, Finland, France and China.** Four thematic hubs, or T-Hubs, with a focus on quantum computing, communication, sensing and metrology, and materials and devices will be established in India's leading academic and national R&D institutes.  
**Objectives:** Create intermediate-scale quantum computers with 50-1000 qubits in the next eight years. Establish satellite-based secure quantum communications between ground stations within India, as well as with other countries, covering a range of 2000 km. It will look to provide inter-city quantum key distribution over 2000 km.
5. **Garbh-Ini programme:** It promotes Maternal and Child Health and develops prediction tools for preterm birth. It is an **initiative under the Department of Biotechnology of the Union Ministry of Science and Technology.** This program is led by the Translational Health Science and Technology Institute (THSTI), NCR Biotech cluster, Faridabad. **It is part of the Atal JaiAnusandhan Biotech Mission – Undertaking Nationally Relevant Technology Innovation (UNaTI).**

#### 24th April

1. **Nagastra':** It is India's first indigenous loitering munition which can strike enemy targets with precision. It has an indigenous content of more than 75 per cent. **It has been designed and developed by Economics Explosives Ltd (EEL), a 100 per cent subsidiary of Solar Industries Nagpur, in association with Z-Motion, Bangalore.** It can neutralize hostile threats with GPS-enabled precision strikes with an accuracy of 2 m. The Nagastra can loiter around in the air and strike when the target reaches the spot. **It hits in a kamikaze mode (suicidal attack),** destroying the target and itself.
2. **International Fund for Agriculture Development (IFAD):** It is an international financial institution and a specialized agency of the United Nations dedicated to eradicating poverty and hunger in rural

areas of developing countries. **IFAD is the only multilateral development institution that focuses exclusively on transforming rural economies and food systems.** It is a member of the United Nations Development Group. It was established as an international financial institution in 1977 through United Nations General Assembly Resolution. Headquarters: Rome, Italy.

**Membership:** Currently, IFAD has **177 Member States, including India.** The highest decision-making body is the Governing Council which meets every three years.

3. **Logistics Performance Index (LPI):** Released by **World Bank**, it measures the ease of establishing reliable supply chain connections and structural factors that make it possible, such as the quality of logistics services, trade and transport-related infrastructure, as well as border controls. The LPI 2023, for the first time, measures the speed of trade with indicators derived from big datasets tracking shipments. **Singapore and Finland are the highest-ranked LPI countries. India is ranked 38 out of 139 countries,** climbing six places from the previous index, mostly due to modernisation and digitalisation.

4. **India-Japan Intellectual Dialogue:** In the **third India-Japan Intellectual Dialogue in Agartala, policymakers focused to bring the troika of Bangladesh, India and Japan closer.**

**Matarbari Deep Sea Port:** The development of the Matarbari Deep Sea Port in Bangladesh, with Japanese assistance, is expected to be a game changer for the region. Japan has been investing in infrastructure projects in the region, such as the **Guwahati water supply project and the Northeast Road Network Connectivity Improvement Project.**

5. **Track 1.5 Dialogue:** The initiative, called the **Track 1.5 Dialogue, was launched by Thailand.** India was a participant in the first session that was held in Bangkok in March. **In Delhi, it will be held at the Indian Council of World Affairs, an autonomous think tank funded by the Ministry of External Affairs. The theme for the session is “peace and reconciliation” and humanitarian assistance, with efforts to find a way to implement the ASEAN Five Point Consensus (5PC) on Myanmar.** The five points are: immediate end to violence; dialogue among all parties; the appointment of a special envoy; humanitarian assistance by ASEAN; and the special envoy’s visit to Myanmar to meet with all parties. **Track 1 Diplomacy or Official Diplomacy** is an instrument of foreign policy for the establishment

and development of contacts between the governments.

**Track 2 diplomacy** brings together unofficial representatives (like influential citizens) on both sides, with no government participation.

**Track 1.5 dialogues** are conversations that include a mix of government officials—who participate in an unofficial capacity—and non-governmental experts (third party), all sitting around the same table.

### 25th April

1. **Ponzi Scheme:** It is a fraudulent investing scam promising high rates of return with little risk to investors. **It works like a pyramid scheme and generates returns for older investors by acquiring new investors, who are promised a large profit at little to no risk.** It relies on a constant flow of new investments to continue to provide returns to older investors and when the flow of fresh investments runs out, the scheme falls apart. **Ponzi schemes are banned under the Prize Chit and Money Circulation (Banning) Act, 1978.** It is a Central Act but the respective State governments are the enforcement agency of this law. These are also dealt with by the Enforcement Directorate under the Prevention of Money Laundering Act, 2002.

2. **LockBit Ransomware:** LockBit, formerly known as “ABCD” ransomware, is a type of computer virus that enters someone’s computer and encrypts important files so they can’t be accessed. **The virus first appeared in September 2019 and is called a “crypto virus”,** because it asks for payment in cryptocurrency to unlock the files. LockBit is usually used to attack companies or organizations that can afford to pay a lot of money to get their files back. **It uses a ransomware-as-a-service model to make money.** It works as a self-spreading malware, not requiring additional instructions once it has successfully infiltrated a single device with access to an organisational intranet.

3. **Armenian Genocide:** It was the **mass murder** of at least 664,000 and up to 1.2 million Armenians by the **nationalist ruling party of the Ottoman Empire**, the Committee of Union and Progress, between 1915 and 1916. **The Armenians were a primarily Christian ethnic group who had lived in Eastern Anatolia (modern day Eastern Turkey) for centuries.** During the First World War, the Ottoman Empire joined forces with Germany and Austria-Hungary but suffered several significant defeats and quickly retreated. To conceal their failure from the public, the Ottoman leaders openly blamed their

defeat on Armenians in the region and stated that they had betrayed their empire by fighting for and helping the enemy forces. This deliberate falsehood acted as a catalyst and justification for the genocide of the Armenian people

4. **Malaria:** Malaria is all set to become a notifiable disease across India, which will require cases to be reported to government authorities by law. A potentially life-threatening disease caused by parasites that are transmitted through the bite of **infected female Anopheles mosquitoes**

**Causes:** Four species of plasmodium parasites, namely plasmodium vivax, plasmodium falciparum, plasmodium malariae, and plasmodium ovale

**Spread:** Bite of infected female Anopheles mosquitoes

**Treatment:** Antimalarial drugs; Vaccine: RTS,S/AS01 (Mosquirix)

The move is part of **India's vision to become malaria-free by 2027 and to eliminate the disease by 2030**. In India, the Ministry of Health and Family Welfare maintains a list of notifiable diseases under the National Health Mission.

5. **Insulin Shock:** Insulin shock occurs when you have too much insulin in your blood. This can lead to hypoglycemia, also called low blood sugar. If left untreated for too long, it can lead to loss of consciousness and even death. **It can occur in people with type 1 or type 2 diabetes** if they are using certain medications.

### 26th April

1. **First Information Report (FIR):** It is a written document prepared by the police when they receive information about the commission of a cognizable offence. **The term FIR is not defined in the Indian Penal Code (IPC), Code of Criminal Procedure (CrPC), 1973, or in any other law.** However, in police regulations or rules, information recorded under Section 154 of CrPC is known as First Information Report (FIR). **There are three important elements of an FIR:** The information must relate to the commission of a cognizable offence, It should be given in writing or orally to the head of the police station, It must be written down and signed by the informant, and its key points should be recorded in a daily diary.
2. **Zafar Mahal:** This is the **last structure built by the Mughals** and served as a summer palace for the Mughal family in Mehrauli village, Delhi. It was **built**

**in memory of the Hazrat Khwaja Qutubuddin Bakhtiar Kaki**, the renowned Sufi saint to whom almost all the Mughal Emperors were disciples. It was started by Emperor Akbar Shah II and was finished by the last Mughal emperor, Bahadur Shah Zafar, who also gave it the present name of Zafar Mahal. **It consists of two components:** one being the Mahal established by Akbar Shah and the other being the entrance gate (Hathi Gate) developed by Bahadur Shah Zafar II. **The famous festival or the annual procession known as Phulon ki Sair** also starts from here and is a festival that had long ago been started by the Khawja Bhaktiyar Kaki himself as a protest against the British.

3. **Operation Kaveri:** It is a **rescue operation** being carried out by the Indian Government to **bring back Indian citizens stranded in Sudan**. Sudan has been witnessing deadly fighting between the country's army and a paramilitary group, the paramilitary Rapid Support Forces (RSF) that has reportedly left several hundred's dead.

4. **Exercise INIOCHOS-23:** It is an **annual multi-national air exercise hosted by the Hellenic Air Force, the air force of Greece**. It is based on the Single Base Concept, which means the entire exercise takes place from a single air base. **It will be conducted at the Andravida Air Base in Greece**. The Indian Air Force (IAF) recently announced that it will take part in Exercise INIOCHOS-23 in Greece.

5. **Markets in Crypto Assets (MiCA):** Recently, the European Parliament has approved MiCA regulation, the world's first comprehensive set of rules that aims to bring unregulated cryptocurrency markets under government regulation. **The regulations will not only apply to traditional cryptocurrencies like Bitcoin and Ethereum but also to newer ones like stablecoins.** However, it will not regulate digital assets that would qualify as transferable securities and function like shares or their equivalent and other crypto assets that already qualify as financial instruments under existing regulation. It will also **exclude non fungible tokens**.

The rules require every crypto asset service provider (CASPs) to get incorporated as a legal entity in the EU. They can get authorized in any one member country and will be allowed to conduct their **services across the 27 countries**. The rules also address environmental concerns surrounding crypto, with firms forced to disclose their energy consumption as well as the impact of digital assets on the environment.



## 27th April

- Terms related to crypto market:**

**“Rout”** means when people sell cryptocurrency in a panic, causing prices to fall sharply.

**“Contagion”** means the danger of a collapse in one market affecting other markets, financial institutions, and the overall economy
- ZERO SHADOW DAY:** A **sub-solar point** is when the **sun is directly overhead at a particular latitude**. When the sun is at the zenith (the highest point in the sky) its rays will be hitting a particular point exactly perpendicular to the surface. This will make the shadow of that person/object exactly under him/her/it, making it look like there are no shadows. **There are two zero shadow days every year in May and July/August, observed in places that lie between tropic of cancer and tropic of Capricorn.** One falls during the **Uttarayan** (when the Sun moves northwards), and the other is during **Dakshinayan** (when the Sun moves southwards). This phenomenon lasts for a small part of a second, but the effect can be seen for a minute to a minute-and-a-half.
- THIRUNELLY TEMPLE:** It is an **ancient temple dedicated to Lord Maha Vishnu on the side of Brahmagiri hill in Kerala, India**, near the border with Karnataka state. There exists documentary proof that Thirunelli at the time of Chera king Bhaskara Ravi Varma I (962–1019 CE) was an important town and pilgrim center in South India. **The name Thirunelli derives from the nelli, the Tamil/Malayalam word for Indian gooseberry of the Amla tree.** Purans mention it as being built by Lord Brahma, and in these texts, it is referred to as **“Sahyamalaka Kshetra”**. **The Indian National Trust for Art and Cultural Heritage (INTACH) has urged the government to conserve the historically significant structures, including the 600-year-old ‘Vilakkumadom’, an exquisite granite structure.**
- Indian National Trust for Art and Cultural Heritage (INTACH):** founded in **1984** in **New Delhi** with the vision to spearhead heritage awareness and conservation in India, today **INTACH is recognized as one of the world’s largest heritage organizations**, with over 190 Chapters across the Country. It is a **non-profit charitable organisation registered under the Societies Registration Act, 1860**. In 2007, the United Nations awarded INTACH a special consultative status with United Nations Economic and Social Council.

- Genome India Project (GIP):** Officially launched in **January**, The Genome India Project, is a **collaboration of 22 institutions including the Indian Institute of Science and some IITs**, whereby in the first phase the genomic data of 10,000 Indians will be catalogued. **This is the first large effort in the country to catalogue genetic diversity** by doing **whole genome sequencing of representative communities across India**. The **Department of Biotechnology (DBT)** has identified **Pune as a key centre in Maharashtra under the landmark ‘GenomeIndia’ project**. The participants should be healthy and aged between 18 and 70 A genome is an organism’s complete set of DNA, including all of its genes. Genomics is an interdisciplinary field of science focusing on the structure, function, evolution, mapping, and editing of genomes. Genomics also involves the sequencing and analysis of genomes through uses of high throughput DNA sequencing.

## 28th April

- Nutrient Based Subsidy (NBS) Scheme:** The NBS scheme is being **implemented since 2010 by the Department of Fertilisers, Ministry of Chemicals and Fertilisers**.

Under the scheme, fertilisers are provided at subsidised rates based on the nutrients contained, namely **Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S)**. It does not include urea-based fertilisers.

Moreover, fertilisers fortified with secondary nutrients and micronutrients (sulphur, zinc, boron, iron, manganese, and copper) are given additional subsidies. **Farmers buy non-urea fertilisers at MRPs below their market rates**. The Centre foots the difference as a subsidy. The subsidy under NBS goes to fertiliser companies, although its ultimate beneficiary is the farmer. Now it is done via DBT.
- Urea:** Urea is sold at statutorily notified uniform MRP. The difference between the delivered cost of urea to the farmer and net market realisation by the urea units is given as a subsidy to the urea manufacturer/importer by the Centre. **Urea is not included in the NBS scheme and remains under price control (MRP is officially fixed)**. On the other hand, the MRPs of non-urea fertilisers under the NBS scheme are decontrolled (fixed by the companies). Thus, they retail way above urea while attracting lower subsidies. This has led the farmers to use more urea, worsening the fertiliser imbalance.



**Urea is a chemical nitrogen fertiliser, white in colour, which artificially provides nitrogen, a major nutrient required by plants.**

- Rapid Security Forces of Sudan:** Trace its roots to the Janjaweed militias — a group of Ara tribes primarily based in western Sudan, including the contentious region of Darfur. Janjaweed militias called themselves horsemen and were used by the then Sudan government to help the army put down a rebellion. It was **made into the RSF in 2013**, and its forces were used as border guards in particular. **In 2017, a law legitimizing the RSF as an independent security force was passed.**

The conflict between the army and RSF stems from a disagreement over how the RSF should be integrated into the armed forces and what authority should oversee the process.

- Triple tests for surrogacy:** The High Court of Karnataka has developed “triple tests” to help a couple facing legal hurdles have a child through altruistic surrogacy under provisions of the **Surrogacy (Regulation) Act, 2021:**  
**Genetic test** for the husband to ensure the child is not born with any disorder

**Physical test** for a couple to ascertain their capacity to manage the child

**Economy tests** for couples to ensure that they can protect the future of the child.

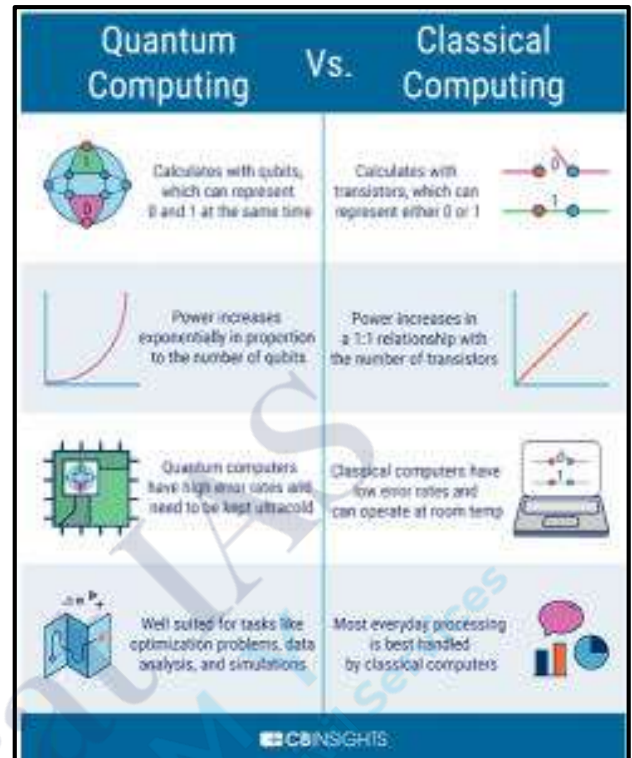
Single individuals, same-sex couples, and foreigners are prohibited from availing of surrogacy services in India

- Quantum computing:** Quantum computers mimic the behaviour of atoms and subatomic particles to drastically increase processing speed.  
**Superfluid:** quantum processors need to be very cold – about a hundredth of a degree above absolute zero. To achieve this, we use super-cooled superfluid to create superconductors.

**Superposition:** Groups of qubits in superposition can create complex, multidimensional computational spaces. Complex problems can be represented in new ways in these spaces.

Entanglement is a **quantum mechanical effect that correlates the behaviour of two separate things.** When two qubits are entangled, changes to one qubit directly impact the other. Quantum algorithms leverage those relationships to find solutions to complex problems.

**Quantum computing involves qubits.** Unlike a normal computer bit, which can be either 0 or 1, a qubit can exist in a multidimensional state.



29th April

- Civil Nuclear Liability Act:** Two main principles underlie nuclear liability law:

**Strict liability** means that the **operator of a nuclear facility** is liable for any damage caused by a **nuclear incident**, regardless of fault or negligence.

**Exclusive liability** means that **only the operator can be held liable for a nuclear incident**, and no other person or entity can be sued for compensation.

The operator’s liability is capped at a certain amount, which varies depending on the country and the convention. **For example, in India, it is capped at ₹1,500 crores.** The limitation of liability also applies to the period within which claims for compensation can be made. For example, **in India, claims must be filed within 10 years of the incident**

Exclusive jurisdiction of the courts of the country where the nuclear incident occurred.

**Nuclear liability law is not uniform across the world.**



2. **Bihan Mela:** It is known as the seed festival and the event is participated by the farmers. Preparations begin as soon as farmers have harvested Kharif crops. It is celebrated by the members of the **Kondh tribe in Odisha**. The Hill or Maliah Konds, are numerically the dominant group while the Plains Konds have adopted many aspects of Hindu religion and culture. These tribal **people speak languages called Kui and Kuvi**. The language has no script of its own, with the **Oriya script used for writing Kui, and the Telugu script used for Kuvi**.
3. **AGNI DAMAN-23:** It is a **firefighting exercise** conducted under the aegis of **Indian Army's HQ, Southern Command**.  
**Objective:** Enhance synergy among firefighters to work together in the event of major fire incidents.
4. **Sun halo:** It is an **optical phenomenon that occurs due to sunlight refracting millions of hexagonal ice crystals suspended in the atmosphere**. When white light passes through unique hexagonal ice crystals found in upper-level cirrus clouds, causing the halo to have colours.  
  
Light undergoes two refractions as it passes through the ice crystals and the bending that occurs

depends on the ice crystal's diameter. **The lunar halos are mostly colourless as moonlight is not very bright**. In the case of the Sun, these colours are more noticeable and appear as bright as a rainbow.

5. **Dedicated Freight Corridor:** It is a high speed & high-capacity railway corridor that is exclusively meant for the transportation of freight (goods & commodities).
  - Under **Ministry of Railways, the project involves the construction of six freight corridors** traversing the entire country.
  - Initially, the construction of **two freight corridors**,
  - **Western DFC** connecting the states of Haryana & Maharashtra &
  - **Eastern DFC** connecting the states Punjab & West Bengal, is being undertaken.
  - The **other four corridors include:** North-South (Delhi-Tamil Nadu), East-West (West Bengal-Maharashtra), East-South (West Bengal-Andhra Pradesh) & South-South (Tamil Nadu-Goa).
  - **Western Dedicated Freight Corridor (WDFC):** Dadri, U.P to Jawaharlal Nehru Port, Mumbai-1,468 km. The WDFC covers Haryana, Rajasthan, Gujarat, Maharashtra & Uttar Pradesh.
  - **It is being funded by the Japan International Cooperation Agency.**
  - **Eastern Dedicated Freight Corridor (EDFC):** Ludhiana Punjab to Dankuni West Bengal-1,760 km. The EDFC route covers Punjab, Haryana, Uttar Pradesh, Bihar, Jharkhand & West Bengal
  - **EDFC is being funded by the World Bank.**
  - Connecting Link for Eastern & Western Arm is under construction between Dadri & Khurja.

## Prelims Booster- Press Information Bureau (PIB)

### 1st April

1. **Cope India Exercise:** The Air Forces of India and the U.S. are set to conduct the Cope India exercise from **April 10 to 21 at the Kalaikunda airbase in West Bengal, with Japan as an observer.** Cope India Exercise is a bilateral combined training session involving IAF and the US Air Force (USAF). **Cope India started out as a fighter-training drill in 2004.** The most recent iteration of the practice took place in **2019.** The exercise has developed to include, in addition to fighter-training exercises, subject matter expert exchanges, air mobility training, airdrop training, and large-force exercises. **Other joint defense drills between India and the US include Yudh-Abhyas (Military Exercise), Vajra Parhar, and Dharma Guardian with Japan.** And a Trilateral Maritime Exercise Malabar is scheduled between the navies of India, Japan, and the USA.

2. **National Financial Reporting Authority (NFRA):** The NFRA was constituted in 2018 under the Companies Act, 2013. **It is an independent regulator to oversee the auditing profession and accounting standards in India.**

**Functions and Duties:** Recommend accounting and auditing policies and standards to be adopted by companies for approval by the Central Government; Monitor and enforce compliance; Oversee the quality of service of the professions.

**Composition:** It consists of a **chairperson**, who shall be a person of eminence and having expertise in accountancy, auditing, finance, or law to be **appointed by the Central Government** and such other members not exceeding fifteen consisting of part-time and full-time members.

**Powers:** NFRA have the power to investigate, either suo moto or on a reference made to it by the Central Government into the matters of professional or other misconduct committed by any member or firm registered under the Chartered Accountants Act, 1949. **It has the same powers as civil court under the Code of Civil Procedure, 1908 while trying a suit.** HQ: New Delhi.

3. **Reusable Launch Vehicle-Technology Demonstration (RLV-TD):** Recently, ISRO successfully carried out the landing experiment of the RLV-TD programme at the Aeronautical Test Range in Challakere, Karnataka. **It is the first in the world; a winged body has been carried to an altitude of 4.5 km by IAF Chinook helicopter.** It is the second in the series of experimental flights of the programme. A Winged RLV-TD has been configured to act as a flying test bed to evaluate various technologies namely, hypersonic flight, autonomous landing, and powered cruise flight. These technologies will be developed in phases through a series of experimental flights. RLV-TD is similar to that of an aircraft and combines the complexity of both launch vehicles and aircraft. It also features symmetrically placed active control surfaces called Elevons and Rudder.

4. **Utkal Dibas:** The modern state of Odisha was established on **1 April 1936 at Kanika Palace, Cuttack, as a province in India,** and consists predominantly of Odia speakers. 1 April is therefore celebrated as Utkal Divas (Odisha Day). The British had occupied the Northern Circars, comprising the southern coast of Odisha, as a result of the Second Carnatic War by 1760, and incorporated them into the Madras Presidency gradually. The northern and western districts of Odisha were incorporated into the Bengal Presidency. In **1903,** the **Utkal Sammilani** organisation was founded to **demand the unification of Odia-speaking regions** into one state. **On 1 April 1912, the Bihar and Orissa Province was formed and on 1 April 1936, Bihar and Orissa were split and the new province of Orissa came into existence on a linguistic basis during the British rule in India, with Sir John Austen Hubback as the first governor**

### 3rd April

1. **Sagar Setu Mobile App:** The App Version of the National Logistics Portal (Marine), named '**Sagar-Setu**', has been launched by **Ministry for Ports, Shipping and Waterways.** The app will provide real-time information on vessel-related information, gate, container freight stations, and transactions, enabling digital transactions for payments. The app will boost maritime trade, enhance the economy of the country, and increase the visibility of operations and tracking.

2. **National Logistics Portal (Marine)** is a **national maritime single window platform** encompassing



complete end-to-end logistics solutions to help exporters, importers, and service providers exchange documents seamlessly and transact business. **Maritime India Vision 2030 (expected to supersede the Sagarmala Scheme) aims to build ports and digitize maritime infrastructure within the country.**

**3. Advance Pricing Agreement:** It is an agreement between a taxpayer and a tax authority that sets out how international transactions between related companies will be priced, to avoid any confusion or disagreement about the pricing of those transactions. For example, let's say Company A in India sells products to its subsidiary Company B in the US. Company A can enter into an APA with the Indian tax authority and the US tax authority to agree on the transfer pricing methodology that will be used to determine the pricing of these products (being sold to its own subsidiary). **The main objective of an APA is to keep a check on big multinational companies so that they do not engage in tax evasion by adjusting their profits based on their inter-corporate transactions (transfer pricing). Guidelines are included in Income Tax Act, 1961.**

**Types of APA:** Unilateral, Bilateral, and Multilateral. APA helps determine the arm's length price of international transactions in advance for a maximum of five future years (taxpayer also has the option to roll back the APA for four preceding years = Total of nine years of tax certainty).

**4. Unified Tariff:** The Petroleum and Natural Gas Regulatory Board has implemented the Unified Tariff in the natural gas sector. **The Unified Tariff is a way to calculate the price of transporting natural gas across different pipelines in India.** This helps to ensure that the cost of transporting gas is fair and consistent across the country. PNGRB (the regulator) has notified a levelized unified tariff of ₹73.93 per metric million British thermal units (MMBTU) and **created three tariff zones for unified tariff: First zone** is up to a distance of 300 km from the gas source, **Second zone** is 300 – 1200 kms and **Third zone** is beyond 1200 km. The Unified Tariff is expected to assist in achieving the 'One Nation One Grid One Tariff' model and stimulate gas markets in remote areas. The Ministry bi-annually revises the price of natural gas produced from various sources. PNGRB is a statutory body, constituted under Petroleum and Natural Gas Regulatory Board Act, 2006. **Its primary functions include regulation of refining, transportation, distribution, storage, marketing, supply and sale of petroleum products and natural gas.**

**5. Swachhotsav 2023:** Ministry for Housing and Urban Affairs launched **Swachhotsav 2023 campaign to galvanise the participation of women to realize the goal of 'Garbage Free Cities' and help 1,000 cities become 3-star Garbage Free Cities GFC by October 2024** under the Swachh Bharat Mission Urban (SBM-U). Star Rating (launched in 2018 under SBM-U 2.0) aims to encourage a competitive, mission-mode spirit among Urban Local Bodies. ODF Plus villages in India increased from about 7% in 2022 to 40% in March 2023.

#### 4th April

**1. International Conference on Disaster Resilient Infrastructure (ICDRI):** Recently, the Prime Minister addressed the inaugural session of **5th edition of International Conference on Disaster Resilient Infrastructure (ICDRI). ICDRI is the annual conference of the Coalition for Disaster Resilient Infrastructure (CDRI).**

It brings together member countries, organizations and institutions to strengthen the global discourse on disaster and climate resilient infrastructure. **The fourth edition of ICDRI was being organized in partnership with the United States Government.**

**2. Coalition for Disaster Resilient Infrastructure (CDRI):** CDRI was first proposed by our Prime Minister during the 2016 Asian Ministerial Conference on Disaster Risk Reduction held in New Delhi. It was then launched by the Prime Minister during the United Nations Climate Action Summit in 2019, at New York. **The CDRI is a partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions.** It aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development. **The following are CDRI's strategic priorities:** Technical Support and Capacity-building, Research and Knowledge Management, Advocacy and Partnerships. **The CDRI Secretariat is based in New Delhi, India.**

**Members:** 31 nations and 8 organisations.

The Union Cabinet approved the categorization of the **Coalition for Disaster Resilient Infrastructure (CDRI) as an 'International Organisation'.**

**3. Central Information Commission:** The Central Information Commission was **constituted in 2005 under the Right to Information Act, 2005.** It is not a constitutional body. The jurisdiction of the



Commission extends over all Central Public Authorities. **The commission shall consist of the Chief Information Commissioner (CIC) and several Central Information Commissioners not exceeding 10 as may be deemed necessary.** The RTI (Amendment) Act, 2019 stated that the central government will notify the term and quantum of salary through rules. **The commissioners are appointed by the President on the recommendation of a committee** consisting of: The Prime Minister, who shall be the Chairperson of the committee; The Leader of Opposition in the Lok Sabha; and Union Cabinet Minister to be nominated by the Prime Minister. **They shall hold office for such term as prescribed by the Central Government or until they attain the age of 65 years,** whichever is earlier, and shall not be eligible for reappointment.

4. **Exercise SLINEX-2023:** The 10th edition of the maritime Exercise SLINEX – 2023 recently began in Colombo. **It is an annual bilateral maritime exercise between Indian Navy and Sri Lanka Navy. The exercise is being conducted in two phases, the Harbour Phase followed by the Sea Phase.**

The **Indian Navy will be represented by INS Kiltan** (Advanced Anti Submarine Warfare Corvette) and **INS Savitri** (Offshore Patrol Vessel), while the Sri Lanka Navy will have SLNS Gajabahu (Advance Offshore Patrol Vessel) and SLNS Sagara (OPV) in the exercise. SLINEX is in consonance with India's policy of 'Neighbourhood First' and Prime Ministers' vision of 'Security and Growth for All in the Region (SAGAR)'.

#### 5th April

1. **Biotech-KISAN:** Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) is a scientist-farmer partnership scheme launched in 2017. **It is a pan-India program, following a hub-and-spoke model and stimulates entrepreneurship and innovation in farmers and empowers women farmers.** The Biotech-KISAN hubs are expected to fulfil the technology required to generate agriculture and bio-resource related jobs and better livelihood ensuring biotechnological benefits to small and marginal farmers.  
**Ministry:** This is a **farmer-centric scheme** developed by and with farmers under the **Department of Biotechnology, Ministry of Science and Technology.**  
**Objective:** It was launched for agriculture innovation with an objective to connect science laboratories with the farmers to find out innovative

solutions and technologies to be applied at farm level.

2. **Mahavir Jayanti:** This day marks the **birth of Vardhamana Mahavira, who was the 24th and the last Tirthankara who succeeded the 23rd Tirthankara, Parshvanatha.** According to Jain texts, Lord Mahavira was born on the 13th day of the bright half of the moon in the month of Chaitra. **As per the Gregorian calendar, Mahavir Jayanti is usually celebrated during the month of March or April.** Mahavir was born to King Siddhartha of Kundagrama and Queen Trishala, a Lichchavi princess in the year 540 BC in the Vajji kingdom, identical with modern day Vaishali in Bihar. Mahavira belonged to the Ikshvaku dynasty. **He was named Vardhamana, which means "one who grows".** He abandoned worldly life at the age of 30 and **attained 'kaivalya' or omniscience at the age of 42.** Mahavira taught **ahimsa** (non-violence), **Satya** (truth), **asteya** (non-stealing), **brahmacharya** (chastity) and **aparigraha** (non-attachment) to his disciples and his **teachings** were called Jain Agamas. Mahavira passed away and attained moksha at the age of 72 in 468 BC at a place called Pavapuri near modern Rajgir in Bihar.
3. **Stand Up India Scheme:** It was **launched on April, 2016 and has been extended till 2025.** The scheme aimed to **promote entrepreneurship amongst women and SC/ST** to help them in starting a greenfield enterprise in manufacturing, services or the trading sector and activities allied to agriculture. **Objective:** To Facilitate bank loans between Rs.10 lakh and Rs.1 crore to at least one SC/ST borrower and at least one woman borrower per bank branch of Scheduled Commercial Banks.  
**Eligibility:** SC/ST and/or women entrepreneurs, above 18 years of age; Loans under the scheme is available for only green field project. In case of non-individual enterprises, 51% of the shareholding and controlling stake should be held by either SC/ST and/or Women Entrepreneur. **The scheme is anchored by Department of Financial Services (DFS), Ministry of Finance, Government of India.**
4. **Basholi Painting:** Recently, the world-famous Basohli Painting which is **popular for its miniature art style from Kathua district of Jammu has obtained the Geographical Indication (GI) Tag.** It is considered the first school of Pahari paintings The painting style flourished during the 17th and 18th centuries under the patronage of local rulers and wealthy merchants. **It has peculiar characteristics, they have perfect geometrical patterns, bright**

**colours and glossy enamel.** Ochre yellow, brown, and green grounds predominates. The figures in the paintings are shown clad in rich costumes, stylised faces and large bulging eyes lent unique individuality to these paintings.

**Themes:** The portraits of local rulers, Radha-Krishna, and Madhava-Malati love themes and themes. These are painted on paper, cloth, or wood using natural pigments and dyes.

#### 6<sup>th</sup> April

1. **MISHTI scheme:** In the Union Budget 2023-24 Finance Minister Nirmala Sitharaman announced a new MISHTI scheme. MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes)

**It is a new programme that will facilitate mangrove plantations along India's coastline and on saltpan lands.** The programme will operate through "convergence between MGNREGS, Campa Fund and other sources. This new programme will aim at the intensive afforestation of coastal mangrove forests.

2. **IT Amendment Rules 2023:** The Ministry of Electronics and Information Technology (MeitY) released an amendment to the IT Rules 2021, to regulate online real money games where users have to risk money to play. For intermediaries, it is obligatory, To avoid hosting, publishing, and sharing any online game that might be harmful to users and has not been approved by an online gaming self-regulatory authority. To make sure that no non-authorized online game's advertisement is hosted on its platform. To refrain from publishing, disseminating or hosting fabricated, inaccurate or misleading information about any Central Government business.

**Responsibilities of intermediaries:** Displaying of a mark of verification by the self-regulatory body; Informing users of the policy for withdrawal or refund of deposit; Obtaining the KYC details of the users; Not giving credit or enabling financing by third parties to the users, etc. Multiple self-regulatory bodies that represent the online gambling sector and operate independently of their members may be notified by the government. The Ministry had previously suggested that news that has been deemed "fake" by the PIB's fact-checking team will not be permitted on online intermediaries. **The reference to PIB was dropped from the Amendment Rules 2023.** The social media companies have submitted a proposal to the Center to establish the Misinformation Combat Alliance – a

network of fact-checkers that will verify misleading content.

3. **Bandipur Tiger Reserve:** It was established in the 1930s as a wildlife sanctuary, which became a tiger reserve in 1973. It is situated in two contiguous districts (Mysore and Chamarajanagar) of Karnataka and located at the tri-junction area of the States of Karnataka, Tamil Nadu and Kerala. Bandipur Tiger Reserve is surrounded by: Nagarahole Tiger Reserve (Tamil Nadu) in the North West (Kabini Reservoir separates the two). Mudumalai Tiger Reserve (Tamil Nadu) in the South. Wayanad Wildlife Sanctuary (Kerala) in the South West. This area has the River Kabini in its north and River Moyar in its south. It comprises diverse vegetation of dry deciduous to tropical mixed deciduous. It includes rosewood, Indian kino tree, sandalwood, Indian laurel, clumping bamboo and giant clumping bamboo etc.

**Fauna:** It is a shelter for the largest population of wild Asian elephants in South Asia. It comprises other mammals such as Bengal tiger, gaur, sloth bear, golden jackal, dhole and four-horned antelope etc.

4. **Mudumalai Tiger Reserve:** It is located in the Nilgiris District of Tamil Nadu at the tri-junction of three states, viz, Karnataka, Kerala, and Tamil Nadu. It is part of the Nilgiris Biosphere Reserve. It has a common boundary with Wayanad Wildlife Sanctuary on the West, Bandipur Tiger Reserve on the North, the Nilgiris North Division on the South and East, and Gudalur Forest Division on the South West. A variety of habitats ranging from tropical evergreen forest, moist deciduous forest, moist teak forest, dry teak forest, secondary grasslands, and swamps are found here. It has tall grasses, commonly referred to as "Elephant Grass", bamboo of the giant variety, and valuable timber species like Teak, Rosewood, etc.

#### 7<sup>th</sup> April

1. **Artemis II Mission:** NASA recently announced the crew that will fly aboard its Artemis II mission. It will be the first mission to carry humans to the moon's vicinity since 1972. It is the second scheduled flight of the Artemis program and the first crewed Artemis mission. During Artemis II, four astronauts will fly around the moon before returning to Earth. It will use the huge Space Launch System (SLS) mega-rocket and Orion spacecraft to launch the crew on the lunar flyby mission. The astronauts and mission controllers will collect data on Orion and the crew's performance to assess how ready the Artemis program is to send people to the moon's surface.

2. **National Mission for Cultural Mapping:** It was launched in **2017 by the Union Ministry of Culture**  
**Aim:** To develop a comprehensive database of art forms, artists and other resources across the country. The government has identified and documented distinctive features of more than one lakh villages across the country. **In this cultural asset mapping, villages have been broadly divided into seven-eight categories based on mythological, ecological, developmental and scholastic importance.** The Culture Ministry had approved the mission in 2017 for a period of three years. Detailed field surveys were carried out by joint teams of the Culture Ministry and the Common Services Centres (CSC), under the Ministry of Electronics and Information Technology.
3. **Exercise KAVACH:** It was conducted under the aegis of the **Andaman and Nicobar Command (ANC), the only Joint Forces Command in the country.** It was a tri-service exercise and involved assets of the Indian Army, Indian Navy, Indian Air Force and Indian Coast Guard.  
**Aim:** To enhance operational synergy and joint warfighting capabilities among the three services. The exercise involved the synergised application of maritime surveillance assets, coordinated air and maritime strikes, air defence, submarine and landing operations.
4. **International Finance Corporation:** It was founded in **1956 with Washington, DC as its headquarters.** It is a **member of the World Bank Group.**  
**Mandate:** Advance economic development and improve the lives of people by encouraging the growth of the private sector in developing countries.  
**Functions:** It helps countries develop their private sectors in a variety of ways. Investing in companies through loans, equity investments, debt securities and guarantees. Mobilizing capital from other lenders and investors through loan participations, parallel loans and other means. Advising businesses and governments to encourage private investment and improve the investment climate.  
**Governance:** **The IFC is owned and governed by its member countries.** It is a corporation whose shareholders are member governments that provide paid-in capital and have the right to vote on its matters. **The President of the World Bank Group is also the President of the IFC.**
5. **Nathu La Pass:** It is a **mountain pass in the Himalayas in the East Sikkim district.** It is situated

at an altitude of 4302 m and is one of the highest motorable roads in the world. Nathu La connects the Indian state of Sikkim with China's Tibet Autonomous Region. **Nathu La is one the three open trading border posts between India and China; the other two are in Himachal Pradesh (Shipkila) and Uttarakhand (Lipulekh).**

### 8th April

1. **MEE Rating:** According to the 5th cycle of Management Effectiveness Evaluation (MEE) carried out by the Centre the MEE rating of Nagarjunasagar- **Srisailem Tiger Reserve improves from 'Good' to 'Very Good'.** According to the Wildlife Institute of India, **MEE is defined as the assessment of how well protected areas are being managed.** Primarily, whether they are protecting their values and achieving the goals and objectives agreed upon. **The ratings are assigned in four categories – Very Good, Good, Fair, Poor.** The criteria or indicators of for assessing India's Protected Areas has been adopted from IUCN's World Commission on Protected Areas framework of MEE. **The government has been using the MEE to assess tiger reserves across the country since its inception in 2006.** Out of the 53 tiger reserves notified at present, only 51 tiger reserves covering a total area of 73,765 square kilometers have been assessed in this 5th cycle. **The Periyar Tiger Reserve in Kerala gets Top Rank in this cycle.**
2. **Periyar Tiger Reserve:** It is located in the Western Ghats of Kerala. It was declared a **Tiger Reserve in 1978.** Two main rivers, Pamba and Periyar, drain the reserve. It is home to many tribal communities, including the Mannans and the Palians.  
**Terrain:** Hilly and undulating. It consists of tropical evergreen, semi-evergreen and moist deciduous. Important flora includes teak, mangoes, rosewood, jamun, jacarandas, terminalias, tamarind, royal ponciana, bamboos etc.  
**Fauna:** Includes Elephants, Wild Pigs, Sambar, Gaur, Mouse Deer, Dole or Barking Deer, Indian Wild Dog and Tiger. The major four species of primates: the rare lion-tailed macaque, the Nilgiri Langur, Gee's Golden Langur, Common Langur and Bonnet Macaque. **It is also being considered the habitat of the elusive Nilgiri Tahr.**
3. **India-France Business Summit 2023:** The Summit 2023 is commemorating 25 years of India-France Friendship. Union Minister of Commerce & Industry and Government of France, will co-chair the India



France Business Summit. It was held in Paris, France.

**Indo-France Relation:** Signed in 1998, the time-tested strategic partnership has continued to gain momentum. India and France in September 2022 agreed to set up an Indo-Pacific Trilateral Development Cooperation Fund that will support sustainable innovative solutions for countries in the Indo-pacific region. India, France, UAE Trilateral Initiative is aimed at ensuring maritime domain awareness and security from the east coast of Africa to the far Pacific.

**Both countries launched the International Solar Alliance in 2015.** France supports India's bid for permanent membership of the United Nations Security Council as well as its entry into the Nuclear Suppliers Group. It was among the first countries with which India signed a civil nuclear deal. It is the 11th largest foreign investor in India and has emerged as a key defence partner for India, becoming the second largest defence supplier in 2017-2021.

4. **Language Friendship Bridge Project:** Recently, the Indian Council for Cultural Relations (ICCR) has envisaged a special project called 'The Language Friendship Bridge' to expand India's cultural footprint in nations with whom it has historical ties. India is planning to create a pool of experts in languages spoken in countries like Myanmar, Sri Lanka, Uzbekistan and Indonesia to facilitate better people-to-people exchanges. It plans to train five to 10 people in the official languages of each of these countries. As of now, the ICCR has zeroed in on 10 languages: Kazakh, Uzbek, Bhutanese, Ghoti (spoken in Tibet), Burmese, Khmer (spoken in Cambodia), Thai, Sinhalese and Bahasa (spoken in both Indonesia and Malaysia).

#### 10th April

1. **International Big Cats Alliance (IBCA):** The PM recently launched the International Big Cats Alliance (IBCA), inaugurated the programme 'Commemoration of 50 years of Project Tiger', and released the summary report of All India Tiger Estimation (5th cycle) in Mysuru, Karnataka. IBCA will focus on the protection and conservation of seven major big cats of the world such as tiger, lion, leopard, snow leopard, puma, jaguar and cheetah in collaboration with countries harbouring these species.  
**Members:** Membership to the alliance will be open to 97 "range" countries, which contain the natural habitat of these big cats, as well as other interested

nations, international organizations, etc. The IBCA will engage in advocacy, partnership, knowledge portal, capacity building, eco-tourism, partnerships between expert groups and finance tapping.

The alliance will also disseminate information on benchmarked practices, capacity building, resources repository, research and development and awareness creation among its members.

2. **State Energy Efficiency Index Report:** It is developed by the Bureau of Energy Efficiency (BEE) in association with Alliance for an Energy-Efficient Economy (AEEE). SEEI 2021-22 has an updated framework of 50 indicators aligned with national priorities. Programme-specific indicators have been included this year to track outcomes and impacts of state-level energy efficiency initiatives. **5 states – Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana – are in the Front Runner category (>60 points). 4 states – Assam, Haryana, Maharashtra, and Punjab – are in the Achiever category (50-60 points).** Further, Karnataka, Andhra Pradesh, Assam and Chandigarh are the top-performing states in their respective state groups. **Telangana and Andhra Pradesh showed the most improvement since the last index.**
3. **Zoji La:** Zoji La is a high mountain pass located in the Kargil district of Ladakh. The pass links Leh and Srinagar and provides an important link between Union Territories of Ladakh and Kashmir. Zoji La is known as the "Mountain Pass of Blizzards". Zojila pass remains closed during winters due to heavy snowfall, cutting off Ladakh region from Kashmir. In 2018, the Zojila tunnel project was launched. **The tunnel is Asia's longest and strategic bi-directional tunnel, which will provide all-weather connectivity between Srinagar, Kargil and Leh.** It is a horseshoe-shaped single-tube, 2-lane tunnel in the Himalayas between Ganderbal in Kashmir and Drass town in Kargil district of Ladakh. **The project includes a Smart Tunnel (SCADA) system, which has been constructed using the New Austrian Tunneling Method.**  
Z-Morh Tunnel connecting Kashmir to Ladakh is also under construction.
4. **Tiger Census:** The 5th cycle of Tiger Census, an evaluation of tiger reserves in India released by the PM of India, has estimated the number of big cats in the country (interim figures) at 3,167 in 2022 (increased by 200 or 6.7% in the past four years). **The 2018 Tiger Census (released in 2019) had established the presence of 2,967 tigers in India.** After identifying individual tigers from



camera-trapped photos, the WII uses the Spatially Explicit Capture-Recapture (SECR) method to estimate the range of tiger abundance. The numbers of tigers in areas where tigers are present but not camera-trapped are yet to be extrapolated. **NTCA** in collaboration with the **Wildlife Institute of India (WII)**, has conducted a **national assessment for the "Status of Tigers, Co-predators, Prey and their Habitat"** every four years since 2005. **The first status assessment of 2006 was peer reviewed by the IUCN.**

### 11th April

1. **Guru Teg Bahadur:** Tegh Bahadur was born in Amritsar in 1621 to Guru Hargobind, the sixth Sikh guru, who raised an army against the Mughals and introduced the concept of warrior saints. He was only 13 when he distinguished himself in a battle against a Mughal chieftain.

**His writings are housed in the sacred text, 'Guru Granth Sahib,' in the form of 116 poetic hymns.** He was also an avid traveler and played a key role in setting up preaching centers throughout the Indian subcontinent. **During one such mission, he founded the town of Chak-Nanki in Punjab, which later became a part of Punjab's Anandpur Sahib.** In the year 1675, Guru Tegh Bahadur was executed in Delhi under the orders of the Mughal Emperor Aurangzeb.

2. **Jyotiba Phule:** Phule was born in 1827 in present-day Maharashtra and belonged to the Mali caste of gardeners and vegetable farmers. **His Ideology was based on: Liberty; Egalitarianism; Socialism.** Phule was influenced by Thomas Paine's book titled *The Rights of Man*. **Major Publications:** *Tritiya Ratna* (1855); *Powada: Chatrapati Shivajiraje Bhosle Yancha* (1869); *Gulamgiri* (1873), *Shetkarayacha Aasud* (1881). **Phule along with his followers formed Satyashodhak Samaj in 1873 which meant 'Seekers of Truth'** in order to attain equal social and economic benefits for the lower castes in Maharashtra. He was bestowed with the title of Mahatma on by Vithalrao Krishnaji Vandekar. In 1848, he taught his wife (Savitribai) how to read and write, after which the couple **opened the first indigenously run school for girls in Pune** where they both taught. Jyotirao attacked the orthodox Brahmins and other upper castes and termed them as "hypocrites".

3. **National Party:** The Election Commission has **recognised the Aam Aadmi Party (AAP) as a national party** and withdrew the national party status of the All India Trinamool Congress,

Nationalist Congress Party (NCP) and the Communist Party of India (CPI). **Now the country has Six national parties-** Bahujan Samaj Party, Bharatiya Janta Party (BJP), National People's Party (NPP), Communist Party of India (Marxist), Congress and Aam Aadmi Party (AAP).

**Criteria for a National Party Status:** According to the Election Commission, any of these three conditions need to be met if a party is to be called a "national party". **A party's candidates in a minimum of four states must get at least 6 per cent of the total votes polled in each of those states in the last national election.** In addition to this, it should have won four seats in the Lok Sabha. **A party should win a minimum of 2 per cent of the total seats in the Lok Sabha.** The party's candidates should have been elected from not less than three states. A party is recognised as a "state party" in at least four states.

4. **Benefits of a recognised Party:** Recognition as a national or a State party ensures that the election symbol of that party can't be used by any other political party in polls across India. **Recognized 'State' and 'National' party requires only one proposer to file nomination.**

They are given two sets of electoral rolls free of cost. The candidates contesting on the ticket of National or state party get a copy of the electoral roll free of cost during the general elections. The National parties receive land or building from the government to establish their party office. **They can have upto 40 star campaigners while other can have upto 20 star campaigners.** The expenditure incurred on the travelling and other expenses of star campaigners is not included in the election expenditure of the party candidate. **National Parties get the time slot on the national and state television & Radio to address the people and convey their message to the mass people** Once recognised as a national or a state party, a political party retains that status irrespective of its performance in the next elections. It loses the given status only if it fails to fulfil any of the conditions for two successive Assembly and two successive Lok Sabha elections.

### 12th April

1. **Dr B.R Ambedkar:** He was an Indian jurist, economist, politician and social reformer. He was born into a poor **low Mahar (dalit) caste (untouchables)**. In 1930, Ambedkar launched the Kalaram Temple.

**Poona Pact:** It was an agreement made in 1932 between Ambedkar and Mahatma Gandhi on the reservation of electoral seats for the depressed classes. **He was the architect of the Constitution of India by serving as the Chairman of the Constitution Drafting Committee.** He was independent India's first law and justice minister. In 1956, he converted to Buddhism initiating mass conversions of Dalits. **In 1990, the Bharat Ratna was posthumously conferred upon Ambedkar.** In honour of Ambedkar, **Indian Constitution Day (National Law Day) is celebrated on 26 November.** Political parties/groups formed: Depressed Classes Federation (DCF) in 1930, Independent Labour Party (ILP) in 1936, Scheduled Castes Federation (SCF) in 1942.

**Literary works:** Annihilation of Caste, Rande, Gandhi and Jinnah, Castes in India: Their Mechanism, Genesis and Development, The Buddha and His Dhamma, Waiting for a Visa.

- 2. Inter-Operable Criminal Justice System (ICJS) project:** It is a **national platform for enabling integration of the main IT system used for the delivery of Criminal Justice in the country by five pillars.** It seeks to enable the seamless transfer of data and information among different pillars of the criminal justice system, **like courts, police, jails and forensic science laboratories, from one platform.** This system would be made available through a dedicated and secure cloud-based infrastructure with high-speed connectivity. **National Crime Records Bureau (NCRB) will be responsible for the implementation of the project in association with the National Informatics Center (NIC).** The project will be implemented in collaboration with the States and Union Territories
- 3. A HELP Program:** Recently, Accredited Agent for Health and Extension of Livestock Production programme was launched in the State of Uttarakhand. **It is an initiative of the Union Ministry of Fisheries, Animal Husbandry & Dairying and the Ministry of Rural Development.** 'A-HELP' are community-based women activists, who assist veterinarians in local departmental activities help livestock farmers to take loans for entrepreneurship development, fill out applications, mark the ear tagging of animals and register them in the INAF portal and help with insurance etc. They will give vital contributions to preventing infectious diseases of animals, artificial insemination under the

Rashtriya Gokul Mission (RGM), tagging animals and animal insurance.

- 4. National Agriculture Market (e-NAM):** It is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities. **It was launched on 14th April 2016, and is completely funded by the Government of India.** Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing eNAM under the aegis of the Ministry of Agriculture and Farmers' Welfare. **Objective:** To promote **uniformity, removing information asymmetry and promoting real-time price discovery.** Liberal Licensing of traders/buyers and commission agents by State authorities without any pre-condition of physical presence or possession of shop/premises in the market yard. One license for a trader is valid across all markets in the State. Provisions of assaying (quality testing) infrastructure in every market. Restriction of APMC jurisdiction to within the APMC market yard/sub yard instead of geographical area (the market area) at present. Single point levy of market fees, i.e. on the first wholesale purchase from the farmer.

**13th April**

- 1. Jivhala loan scheme:** The scheme offers aid for life term inmates of Yerwada jail. **It has been launched primarily for convicted inmates who are undergoing a prison sentence of more than three years.** While the loan will be disbursed in the name of the inmate, it will be issued to designated family members. In the initial phase, a loan of Rs 50,000 will be given at a 7 per cent interest rate. Of the interest the bank earns, one per cent will be given back to the system as a contribution to the Prisoners' Welfare Fund. The loan will be provided without any requirement of mortgage or guarantor. Inmates will be able to use the loans for education of their children, medical treatment of family members, legal fees. **On entering the prison system, an inmate is categorised as skilled, semi-skilled or un-skilled and assigned work in various industrial and manufacturing units inside the prison.** For this work, they are paid anywhere between Rs. 50 to 70 as daily wages. The money, deposited in their accounts, can be used to buy essentials from the jail canteen and/or can be sent home. The inmates get their earnings from the jail upon their release. Once an inmate takes a loan, the Equated Monthly Installment calculated will be directly deducted from their prison accounts.

2. **Bihu:** It is the **state festival of Assam**. The word Bihu is taken from the Sanskrit word **Bishu meaning “to ask blessings and prosperity from the Gods”** during harvesting season. The first-ever Bihu dance was performed in 1694.

**Types of Bihu:**

- **Bohaag Baisakh (mid of April):** The Bohaag Bihu marks a new year at the beginning of seeding time. Also called Rongaali Bihu.
- **Maagh – in mid of January:** The Magh Bihu marks the end of the harvesting period. Also known as Bhogaali Bihu, the festival of foods.
- **Kaati- Kartik (mid of October):** The Kaati Bihu marks the completion of sowing and transplanting of paddies. Also called Kongaali Bihu or the festival of the poor.

3. **Bihu dance:** More than 11,000 performers, including drummers and dancers, participated at the Sarusajai Stadium in Guwahati in the State Government’s bid to register its world record in the Guinness Book. **The Bihu dance is a folk dance from the Assam state performed on the Bihu festival.** It began with the tribes of Moran, Sonowal, Deories, Borahis, Kacharis.

Young women and men come together and dance to the music from the dhol, buffalo Horn-Pipes, Taal, Toka, Xutuli, Gogona, Baanhi and Flutes. The dancers are dressed in the traditional attires of Assam with the dhotis and gamochas for the men and the Mekhela Chador with blouses for the women.

**Global Significance:** It was a proud moment for the state when professional Bihu dancers performed at the **London Olympics in 2012**.

4. **Meeting of Agricultural Chief Scientists:** The G20 Meeting of Agricultural Chief Scientists (MACS) will be held in Varanasi. **The first meet of MACS was held in Mexico in 2012.** The members of the MACS include ministries or governmental bodies responsible for agricultural research in the respective G20 states as well as leading research institutions which strategically advise these decision-makers. **The theme of the 2023 meeting: Sustainable Agriculture and Food Systems for Healthy People and Planet.** The meeting will also feature the MAHARISHI Initiative i.e., Millets And Other Ancient Grains International Research Initiative. **This International Initiative will focus on research and awareness about agro-biodiversity, food security, and nutrition in line with the International Year of Millets 2023.**

**14th April**

1. **New Year celebrations:**

**Puthandu:** Puthandu also known as **Tamil New Year is traditionally celebrated as a festival by Tamils as the first day of the Tamil month Chittirai.**

**Maha Bishuba Pana Sankranti:** Pana Sankranti is the traditional new year day festival of Odisha, India.

**Baisakhi:** Vaisakhi, also pronounced Baisakhi as well as Basoa is traditionally celebrated annually as a celebration of spring harvest primarily in Northern India. Vaisakhi is also the date for the Indian Solar New Year.

2. **Compressed Bio-Gas:** Bio-gas is produced naturally through a **process of anaerobic decomposition from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.** After purification, it is compressed and called CBG, which has pure methane content of over 90%. **Compressed Bio-Gas is exactly similar to the commercially available natural gas in its composition and energy potential.** CBG can be used as an alternative, renewable automotive fuel. Given the abundance of biomass in the country, CBG has the potential to replace CNG in automotive, industrial and commercial uses in the coming years. Sustainable Alternative Towards Affordable Transportation (SATAT) scheme is directed towards this.

3. **Animal Health System Support for One Health:** It is a collaborative project between the **Department of Animal Husbandry and Dairying and the World Bank.** It is aiming to create an ecosystem for a better animal health management system using the **One Health approach. It will be implemented in five States. It will be implemented over a five-year period as Central sector scheme.** The project calls for participation by Human Health, Forest and Environment Department at the national, regional as well as local for creating and strengthening the One Health architecture including community engagement.

**Animal Pandemic Preparedness Initiative (APPI):** The Department Animal Husbandry has conceived a focused framework of the for future animal pandemic and epidemics.

Few key activities under APPI are Defined joint investigation and outbreak response teams (National & state), Design an overall integrated disease surveillance system (built on National



Digital Livestock Mission), Strengthening the Regulatory system (e.g., Nandi online portal and Field trial guidelines)

4. **Energy Charter Treaty (ECT):** It provides a multilateral framework for energy cooperation that is unique under international law. **It was signed in December 1994 and entered into legal force in April 1998.** It also established the Energy Charter Conference, an inter-governmental organisation which meets on a regular basis to discuss issues affecting energy cooperation.

**There are currently 53 signatories and contracting parties to the ECT, including both the European Union and Euratom.** The Treaty's provisions focus on **four broad areas:** the protection of foreign investments, based on the extension of national treatment, or most-favoured-nation treatment (whichever is more favourable) and protection against key non-commercial risks; non-discriminatory conditions for trade in energy materials, products and energy-related equipment based on WTO rules; the resolution of disputes between participating states; the promotion of energy efficiency.

#### 15th April

1. **Asia Pacific Leaders' Conclave on Malaria Elimination:** India is set to host Asia Pacific Leaders' Conclave on Malaria Elimination. **The ministry of health and welfare will organize the event in partnership with the Asia Pacific Leaders Malaria Alliance (APLMA) in NCT Delhi.** The conclave aims to reaffirm political commitment to galvanise action for **malaria elimination by 2030.** India has made remarkable progress towards malaria elimination. **Among the 11 countries that are part of the WHO's 'High Burden to High Impact' initiative, only India has reported decline in malaria cases during the height of the COVID-19 pandemic.** Malaria cases and deaths also dropped by 85.1% and 83.6% respectively, from 2015 to 2022. The Asia Pacific Leaders Malaria Alliance ("APLMA") unites 22 governments in Asia-Pacific who have committed to eliminating malaria in the region by 2030.
2. **Jagadguru Basaveshwara:** As per the Hindu calendar, the birth of Basavanna falls on the 3rd day of Vaisahaka month in the Shukla paksha. **This usually falls either in April or May of the English calendar.** He was born in Bagevadi (of undivided Bijapur district in Karnataka). A 12th-century poet and philosopher and the founder of Lingayatism. **The term Lingayat denotes a person who wears a personal linga, an iconic form of God**

**Shiva**, on the body which is received during the initiation ceremony. In Kalyana, the Kalachurya king Bijjala appointed him as a karanika (Accountant) and later as the Prime minister. His spiritual discipline was based on the principles of **Arivu** (true knowledge), **Achara** (right conduct), and **Anubhava** (divine experience). It brought a social, religious and economic revolution. This path advocates a holistic approach to Lingangayoga (union with the divine). **This comprehensive discipline encompasses bhakti (devotion), jnana (knowledge), and kriya (action) in a well-balanced manner.** He advocated caste free society with equal opportunity for all and preached about manual hard work. He also founded the Anubhava Mantapa, loosely translated as the forum of experiences, an academy which included Lingayat mystics, saints, and philosophers.

**Other Socio-Economic Principles:** **Kayaka** (Divine work): According to this, every individual in society should take up the job of his choice and perform it with all sincerity. **Dasoha** (Equal distribution): There must be an equal income for equal work. The worker (Kayakajeevi) may lead his day-to-day life by his hard-earned income. But he should not preserve the money or property for tomorrow. He must utilize the surplus money for society and the poor.

3. **World Earth Day:** It is celebrated across the world on **April 22 every year.** It is an annual event to raise awareness about environmental issues and promote global efforts to protect the Earth's natural resources. **The first World Earth Day was held on April 22, 1970, in the United States.** It was organized by a group of environmental activists led by US Senator Gaylord Nelson, who was concerned about the negative impact of industrialization and pollution on the environment. Since then, it encourages to take action towards protecting our planet. **The Earth Day 2023 theme: "Invest In Our Planet", is a continuation of the 2022 theme.**
4. **Earth Hour:** It is a global grassroots movement uniting people to take action on environmental issues and protect the planet. **It was started by WWF and partners as a symbolic lights-off movement in Sydney in 2007. It takes place on the last Saturday of March every year.** "Earth Hour" encourages people to **switch off all lights for an hour, from 8:30 pm to 9:30 pm local time** to promote awareness of climate change challenges and energy conservation.

#### 17th April



1. **EXERCISE INIOCHOS-23:** The Indian Air Force (IAF) will be participating in Exercise INIOCHOS-23, a multi-national air exercise hosted by the Hellenic Air Force. **The exercise will be conducted at the Andravida Air Base in Greece.** The Indian Air Force will be participating with four Su-30 MKI and two C-17 aircraft. **Other participants include France** with its Rafale jets, **the United States of America** with its F-16 jets and MQ-9 drones, **Jordan** with its F-16 jets, **Spain** with its EF-18 aircraft, **Italy** with its Tornado aircraft, **Cyprus** with its AW139 helicopter, **Saudi Arabia** with its F-15 jets, **Slovenia** with its PC-9 aircraft, **Austria** with its Intelligence personnel and **Canada** with its Air Traffic Controllers.

2. **UDAN 5.0:** The Ministry of Civil Aviation has launched the fifth phase of the Regional Connectivity Scheme (RCS)-UDAN. **UDAN 5.0 aims to raise the momentum, connect new routes and bring us closer to the target of operationalizing 1000 routes & 50 additional airports,** heliports and water aerodromes.

**Key features of UDAN 5.0:** focuses on **Category-2 (20-80 seats) and Category-3 (>80 seats).**

**Viability gap funding (VGF) will be provided at a 600 km stage length for both Priority and Non-Priority areas** which were earlier capped at 500 km. Airlines can now propose routes they want to fly under the UDAN 5.0. The move replaces the previous system in which the Ministry predetermined the routes airlines could operate on. The airlines would be required to submit an action/business plan after 2 months from the issuance of LoA wherein they submit their aircraft acquisition plan/availability of aircraft, crew, slots, etc. at the time of the Technical Proposal. The same route will not be awarded to a single airline more than once, whether in different networks or in the same network. Exclusivity will be withdrawn if the average quarterly Passenger Load Factor (PLF) is higher than 75% for four continuous quarters, to prevent exploitation of the monopoly on a route. Airlines must start up their operations no later than four months after the route has been awarded; the previous limit was six months.

3. **Ballistic Missile Defense (BMD) interceptor:** Recently, The DRDO and Indian Navy successfully conducted a maiden flight trial of sea-based endo-atmospheric interceptor missile off the coast of Odisha. India entered an elite club of nations with the capability to fire a Ballistic Missile Defense

(BMD) interceptor from a naval platform. Prior to this, DRDO has successfully demonstrated land-based ballistic missile defence system with capability. India's Ballistic Missile Defence Programme: **India launched the BMD program after Kargil war in 1999** to counter the enemy nation's ballistic missiles that usually delivered both conventional and nuclear warheads.

4. **Two-tires of BMD system:** Prithvi Air Defence missile: It was **originally tested in 2006** and is capable of intercepting and destroying missiles at exo-atmospheric altitudes ranging from 50 to 180 kilometres. The Pradyumna interceptor has already replaced the Prithvi Air Defence BMD. Exo-atmospheric missiles are capable of completing missions in the Earth's upper atmosphere.

**Advanced Air Defence Missile:** lower altitude interception. It was first tested in 2007 for endo-atmosphere at altitudes of 15-40 KM. The endo-atmospheric missiles are the ones that operate within the earth's atmosphere that covers an altitude below 100 KM.

5. **Logistics Performance Index 2023: India's rank in the recently released World Bank's LPI 2023 has improved by six places.** It is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. It measures the ease of establishing reliable supply chain connections and structural factors that make it possible, such as the quality of logistics services, trade and transport-related infrastructure, as well as border controls.

**Highlights of LPI 2023:** The LPI 2023 allows for comparisons across 139 countries. The LPI 2023, for the first time, measures the speed of trade with indicators derived from big datasets tracking shipments. **Singapore and Finland are the most efficient and highest-ranked LPI countries as per the 2023 LPI. India is ranked 38 out of 139 countries,** climbing six places from the previous index. Two major factors for India's jump in the index could be modernisation and digitalisation, which the report quotes as a reason for emerging economies like India to leapfrog advanced countries.

**18th April**

1. **EU-India Aviation Summit:** The two days EU-India Aviation Summit began in New Delhi. During the summit, a declaration of intent was signed by Airport Authority of India with Euro control, and a

letter of intent memorandum of understanding was signed by DGCA with the European Union Aviation Safety for closer cooperation. The Union Minister of Civil Aviation addressed the summit virtually. The summit focused on the EU-India air transport relationship and the mutually shared challenges and opportunities of the two regions. **The theme of the summit was COVID recovery of air traffic, increasing sustainability, maintaining safety and development of unmanned aircraft systems.**

1960s	The relations between the two entities, date back to this time with India being amongst the first countries to establish diplomatic relations with the European Economic Community
1983	Relationship cemented with the establishment of the Delegation of the European Commission to New Delhi
1995	EA cooperation agreement signed in 1994 took the bilateral relationship beyond trade and economic cooperation
2004	At the 15th India EU Summit at The Hague in 2004, the relationship was upgraded to a "Strategic Partnership"
2005	The two sides adopted a Joint Action Plan (JAP) in 2005 that provided for strengthening dialogue and consultation mechanisms in the political and economic spheres, enhancing trade and investment, and bringing people and cultures together
2007	The high-level trade group established under the JAP recommended the initiation of negotiation of a free trade agreement (FTA), with negotiations beginning in 2007 focused on limiting up to 90 percent of tariffs and the liberalisation of services and market access
2012	The lack of progress in the FTA and the 2012 arrest of Italian marines, which not only affected ties between Italy and India but also led to increased tensions with the EU
2019	With changing geo-political scenarios, both India and the EU, through their various joint statements and initiatives, have intensified their partnership in crucial strategic areas, including climate change, sustainable development and military-to-military dialogue

2. **White Tiger:** White tiger cubs Avani & Vyom released for public viewing at Delhi Zoo. **The white tiger or bleached tiger is a leucistic pigmentation variant of the Bengal tigers, Siberian Tiger and man-made hybrids between the two.** They are reported in the wild from time to time in the Indian states of Madhya Pradesh, Assam, West Bengal, Bihar and Odisha in the Sundarbans region and especially in the former State of Rewa. Such a tiger has the black stripes typical of the Bengal tiger, but carries a white or near-white coat. **The first white tiger was spotted in Madhya Pradesh's Vindhya region, in which the Satna district falls, in 1915.** The rare breed of the big cat, which was caught for the first time, died in 1920.
3. **Civil Service Day:** The day is observed on **April 21 every year, is a celebration of the idea of national civil service.** The first National Civil Services Day was celebrated on April 21, 2006. **The civil services in India consist of: Indian Administrative Service (IAS), Indian Police Service (IPS), Indian Foreign Service (IFS) and comprehensive list of other Central Services (Group A, B).** It commemorates the day when Sardar Vallabhbhai Patel – independent India's first Home Minister, inaugurated the newly-created Indian Administrative Service in 1947, calling them the "steel frame of India. **Theme 2023 is Viksit Bharat (विकसित भारत) aimed at 'Empowering Citizens and Reaching the Last Mile'.**

4. **Kamakhya temple:** It is situated on Nilachal Hill and adjoining the southern bank of the Brahmaputra River in Guwahati. It is one of the most revered centres of Tantric practices. **It is regarded as one of the oldest of the 51 Shakti Peethas in India.**

**Temple Architecture:** The traditional nagara and Saracenic or Mughal style of architecture. This unusual combination has been named the **Nilachala Style of Architecture.** This is the only temple of Assam having a fully developed ground plan. It consists of five chambers, garbhagriha or sanctuary, antarala or vestibule, Jagan Mohan or principal chamber, bhogmandir or ritual chamber and natmandir or opera hall for performing traditional dance and music associated with sukti temples. It is interesting to note that the superstructure of each of the above chambers exhibits different architectural features. Ambubachi Mela is one of the major festivals of this temple. **The festival is held every year to commemorate the yearly menstruation of Goddess Kamakhya.**

19th April

1. **National Panchayat Awards:** The Union Ministry of Panchayati Raj celebrating **National Panchayat Awards Week from 17th – 21st April 2023 in the run-up to the National Panchayati Raj Day (24th April 2023).** The award was given to the best-performing Panchayats by assessing their performance in the attainment of SDGs. **These annual awards were first instituted in 2011.** The Awardee Panchayats under various categories of National Panchayat Awards–2023 namely, Deen Dayal Upadhyay Panchayat Satat Vikas Puraskar (DDUPSVP) for the performance under individual LSDG themes, Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar (NDSPSVP) for the aggregate performance under all 9 LSDG themes and green initiative-related Special Categories, Gram Urja Swaraj Vishesh Panchayat Puraskar and Carbon Neutral Vishesh Panchayat Puraskar. **During the event the GS NIRNAY, National Initiative for Rural India to Navigate, InnovAte and Resolve Panchayat decisions, a mobile application was launched.** It provides easy access to critical information discussed during a Gram Sabha. This would bring in more transparency and increase efficiency in the functioning of Panchayats, which play a vital role in decentralized participatory democracy.
2. **Srijana Conference:** A two days national conference on female infertility '**Srijana**' is being organized by **All India Institute of Ayurveda (AIIA), under the Ministry of AYUSH at New Delhi.**

Female Infertility affects millions of people and has an impact on their families and communities. **According to WHO reports, in 37% of the infertile couple, female infertility was the cause.** In India, the cases of female infertility are rising and affect approximately 15% of couple. To overcome the issue, AIIA is organizing an exchange of clinical research, and knowledge through a National Conference.

3. **G20 Space Economy Leaders meeting:** G20 Space Economy Leaders Meeting is being organised under India's G20 presidency by the **Department of Space, Government of India at Bengaluru, Karnataka.**  
**Significance:** G20 Space Economy Leaders Meeting 2023 is expected to establish space as a formal topic for discussion in future G20 meetings.

**Participation:** Diplomats, heads of national space agencies and the space industries from G20 and guest countries are participating.

4. **1st Global Buddhist Summit 2023:** The Ministry of Culture in partnership with **International Buddhist Confederation (IBC) has organized the 1st Global Buddhist Summit 2023, which aims to enhance cultural and diplomatic relations with other countries.** Buddhist monks from various countries took part in the two-day Summit. The aim is to set up a forum for the lay Buddhist scholars and Dharma Masters. **It seeks to delve into Buddha's message for Peace, Compassion and Harmony with the objective of working towards Universal Peace and Harmony** and dharma and produce a document for further academic research, to study its viability for use as a tool for the conduct of international relations on the global stage.

**Theme:** Responses to Contemporary Challenges: Philosophy to Praxis.

**Sub Themes:** Buddha Dhamma and Peace, Buddha Dhamma: Environmental Crisis, Health and Sustainability, Preservation of Nalanda Buddhist Tradition, Buddha Dhamma Pilgrimage, Living heritage and Buddha Relics: a resilient foundation to India's centuries-old cultural links to countries in South, Southeast and East Asia.

**20th April**

1. **International Buddhist Confederation (IBC):** IBC is the biggest religious Buddhist confederation. The purpose of this body is to create a role for Buddhism on the global stage so as to help to preserve heritage, share knowledge, and promote values and

to represent a united front for Buddhism to enjoy meaningful participation in the global discourse.

**In November 2011, New Delhi was host to Global Buddhist Congregation (GBC),** where the attendees unanimously adopted a resolution to form an international umbrella body – the International Buddhist Confederation (IBC).

**HQ: Delhi, India.**

2. **Global Conference on Compressed Biogas:** It was organised by the Indian Federation of Green Energy (IFGE) and addressed by the Ministry of Petroleum & Natural Gas in New Delhi. **The theme of the conference is – Towards Progressive Policy Framework for a Robust CBG Foundation and Growth.**

The production of CBG would have multiple benefits viz. reduction of natural gas imports, reduction of GHG emission, reduction in burning of agriculture residues, providing remunerative income to farmers, employment generation, effective waste management etc. **Government of India has set a target to increase the share of gas in the energy mix up to 15% in 2030 to make India a Gas-based economy.** Presently we are importing around 50% of our requirement of Natural gas.

India's ambitious target to set up 5,000 commercial plants by 2024- 25 and produce 15 MMT of CBG which would replace other gaseous fuels being used in the country. **India had commissioned 46 compressed biogas plants under SATAT Scheme** and there were 100 outlets currently dispensing the compressed biogas across the country was convened at the conference.

3. **YUVA Portal:** The Union Minister of State (IC) Science & Technology launched the 'Yuva' portal. He also launched the One Week -One Lab programme.

**'Yuva' portal:** It is aimed to help in connecting and identifying potential young start-ups across the country. It will help in connecting and identifying potential young Start-Ups.

**One Week- One Lab programme:** CSIR-National Physical Laboratory (NPL) is going to organise the One Week- One Lab programme. **It aims to create awareness about the available technologies and services present at NPL among potential stakeholders.** It aims to provide solutions to societal problems, to sensitise the masses about the importance of precise measurements, and to develop the scientific temperament among masses,



especially amongst students who are the future of the country.

4. **Pradhanmantri Sangrahalaya:** The Pradhanmantri Sangrahalaya is a tribute to every Prime Minister of India since Independence, and a narrative record of how each one has contributed to the development of our nation over the last 75 years. **The logo of the Sangrahalaya shows hands holding the dharma chakra, symbolising the nation and democracy.** The Sangrahalaya will also include the Nehru Museum. It is located at the iconic Teen Murti complex. **Display:** From the freedom struggle to the framing of the Constitution, the **museum will have displays that showcase stories of how the respective Prime Ministers steered the nation.** Personal items, gifts and memorabilia like medals, commemorative stamps, speeches of PMs and anecdotal representations of ideologies will be on display at the museum.

**History:** The Teen Murti Bhawan, the site of the new museum, was the official residence of Jawaharlal Nehru, the first Prime Minister of India. The Nehru Memorial Museum and Library (NMML) was set up in his memory on its premises as an autonomous institution under the Union Culture Ministry.

#### 21st April

1. **PTP-NER Scheme:** Tribal Affairs Minister recently launched Marketing and Logistics Development for Promotion of Tribal Products from North-Eastern Region (PTP-NER) scheme in Manipur. **Vision:** To strengthen livelihood opportunities for tribal artisans through increased efficiency in procurement, logistics and marketing of tribal products. All NE states are covered. **To initiate the empanelment of tribal artisans from the North Eastern Region by organizing 68 Tribal Artisan Melas (TAMs) in various districts of the region.** The TAMs will be organised in consultation and support of District Administration and other relevant organisations/ departments working in the field etc. The programme also includes regular Design & Skill Development training sessions tailored to the needs of the market for tribal recipients. **Implementing Partners:** North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), India Post under the Department of Posts, and other North Eastern State Government Departments/ Agencies. **India Post will provide logistics support.**
2. **Animal Birth Control Rules, 2023:** The Ministry of Fisheries, Animal Husbandry & Dairying has issued

the Animal Birth Control Rules, 2023. These Rules supersede the Animal Birth Control (Dog) Rules, 2001, and are issued under the Prevention of Cruelty to Animal Act, 1960. **The Rules have been formulated in accordance with the guidelines provided by the Hon'ble Supreme Court related to Animal Welfare Board of India and People for Elimination of Stray Troubles.**

**Rules:** Relocation of dogs cannot be permitted. To provide guidelines for the sterilisation and immunisation of stray dogs through Animal Birth Control (ABC) programmes. The responsibility of carrying out ABC programmes lies with the respective local bodies. **The Municipal Corporations are required to implement the ABC and Anti Rabies Program jointly.**

3. **Rabies:** Rabies is a vaccine-preventable, zoonotic, viral disease affecting the central nervous system. **It is present on all continents except Antarctica, with over 95% of human deaths occurring in Asia and Africa.** It is caused by a RNA virus that is present in the saliva of a rabid animal (dog, cat, monkey, etc). It is invariably transmitted following a bite of an infected animal that leads to deposition of the saliva and the virus in the wound. **According to WHO, Dogs are the main source of human rabies deaths, contributing up to 99% of all rabies transmissions.** India is endemic for rabies, and accounts for 36% of the world's rabies deaths. **According to WHO, about 30-60% of reported rabies cases and deaths in India occur in children under the age of 15 years.** Rabies can be prevented by vaccinating pets, and seeking medical care.

**United Against Rabies Forum:** Global initiative to facilitate efforts towards achieving Zero dog-mediated human rabies deaths by 2030. **National Action Plan for Dog Mediated Rabies Elimination by 2030 (NAPRE):** Drafted by the National Centre for Disease Control (NCDC) in association with the Ministry of Fisheries, Animal Husbandry, and Dairying. **Its approach for elimination of rabies is based on recommendations of several international agencies like WHO.**

4. **World Heritage Day:** Or International Day for Monuments and Sites (IDMS) was celebrated with the theme 'Heritage Changes'. **The day is celebrated every year on 18 April to preserve human heritage and to recognize all the efforts of relevant organisations.** The theme this year 'offers the opportunity to respond to questions regarding learning about traditional ways of knowing and knowledge systems in relation to climate action,



and how to use a cultural heritage focus to support equitable protection of vulnerable communities through climate action,

## 22nd April

1. **SATHI Portal:** Union Agriculture and Farmers Welfare Minister launched the SATHI Portal and Mobile App. The Seed Traceability, Authentication and Holistic Inventory (SATHI) portal is a Centralized Online System designed to deal with the challenges of seed production, quality seed identification and seed certification. **It has been developed by the National Informatics Centre (NIC) in collaboration with the Union Ministry of Agriculture and Farmers Welfare on the theme of 'Uttam Beej – Samriddh Kisan.** There will be a QR code under this system, through which the seeds can be traced. It will ensure a quality assurance system, and identify the source of seed in the seed production chain.

**The system will consist of integrated 7 verticals of the seed chain** – Research Organisation, Seed Certification, Seed Licensing, Seed Catalogue, Dealer to Farmer Sales, Farmer Registration and Seed DBT. Seeds with valid certification can only be sold by valid licensed dealers to centrally registered farmers who will receive a subsidy through DBT directly into their pre-validated bank accounts.

2. **India Steel 2023:** The conference and international exhibition was inaugurated at the **Mumbai Exhibition Centre in Goregaon, Mumbai, with Union Minister of Steel presiding over the event.** The Ministry in collaboration with the Department of Commerce and FICCI organised the event. **The primary objective of the event is to provide a forum for industry leaders, policymakers, and experts to discuss the latest developments, challenges, and opportunities in the steel sector.** This biennial event offers a unique opportunity for participants to interact with industry leaders, gain insights into future growth prospects, and explore collaboration opportunities in the Indian steel industry. India's finished steel production has increased by over 6%, whereas globally steel production declined by 4.2% in calendar year 2022".

3. **Abhilekh Patal Portal:** The Prime Minister of India praised "**Abhilekh Patal**" a portal with over **1 Crore Pages of Historical Records of the National Archives.** It is a full-featured web portal to access the National Archives of India's reference media and its digitized collections through the Internet. **Abhilekh is a Sanskrit term used in India for records since ancient times and Patalis a**

**Sanskrit word meaning a board, platform, or surface.** A combination of both these words has been adopted as an acronym for Portal for Access to Archives and Learning.

4. **National Archives of India:** It was established on **11 March 1891 at Calcutta (Kolkata) as the Imperial Record Department,** it is the biggest archival repository in South Asia. **It is the repository of the non-current records of the Government of India** and is holding them in trust for the use of record creators and general users. It has a vast corpus of records viz., public records, private papers, oriental records, cartographic records and microfilms, which constitute an invaluable source of information for scholars-administrators and users of archives. **It is Located at the heart of New Delhi**

It has one Regional Office in Bhopal and three Records Centres at Bhubaneswar, Jaipur and Puducherry. **Nodal Ministry: It is an Attached Office of the Ministry of Culture, Government of India.**

## 24th April

1. **SCO Interbank Consortium:** Recently, under the chairmanship of India, the XIX Council Meeting of the Shanghai Cooperation Organisation Interbank Consortium (SCO IBC) was held in Goa. **It was established by the member countries of the Shanghai Cooperation Organisation in 2005.** It provides funding and bank services for investment projects sponsored by the governments of the SCO member states. **The main objectives of the consortium are to provide financial services, promote trade, and facilitate investment among the member states.** The SCO IBC Council meets ad hoc upon the consensus of all of the parties at least once per year. The Presidency of the Council is carried out on a rotational basis. **It consists of major banks from the member countries, such as the Industrial and Commercial Bank of China, the National Bank of Kazakhstan, and the Bank of Russia.** The first meeting of the SCO Interbank Association was held in Beijing in February 2006.

2. **One Earth One Health – Advantage Healthcare India 2023: The Prime Minister inaugurated the 6th Edition of One Earth One Health – Advantage Healthcare India 2023 meet and expressed India's commitment to making healthcare accessible and affordable not only for its citizens but for the whole world.** The need for an integrated, inclusive, and institutional global response to healthcare challenges was discussed and India's traditional

healthcare systems that holds many answers to stress, and lifestyle diseases was highlighted.

The two-day conclave, attended by Health Ministers of several countries and other stakeholders from public and private sectors, **aims to promote global collaborations and partnerships for achieving Universal Health Coverage through value-based healthcare.** The event also aims to showcase India's strength in medical value travel as an exporter of healthcare workforce providing value-based healthcare services and its emergence as a major hub for world-class healthcare and wellness services.

3. **European Free Trade Association:** India and the four-nation bloc EFTA recently discussed ways to resume negotiations for a free trade agreement with a view to strengthening economic ties between the two regions. **It is an intergovernmental organization established in 1960 by the Stockholm Convention.**

**Objective:** Promotes free trade and economic integration between its members within Europe and globally. EFTA currently has 4 member countries: Iceland, Liechtenstein, Norway and Switzerland. **The EFTA countries have developed one of the largest networks of Free Trade Agreements (FTAs). These FTAs span over 60 countries and territories, including the European Union (EU).** In contrast to the EU, EFTA is not a customs union. This means that the individual EFTA States are free to set their own customs tariffs and arrange other foreign trade measures vis-à-vis the non-EFTA States. EFTA's highest governing body is the EFTA Council. **It generally meets 8 times a year at the ambassadorial level and twice a year at the ministerial level. The headquarters of the EFTA Secretariat is located in Geneva.** It assists the EFTA Council in the management of relations between the 4 EFTA States and deals with the negotiation and operation of EFTA's FTAs. EFTA Surveillance Authority (ESA) monitors compliance with European Economic Area (EEA) rules in Iceland, Liechtenstein and Norway. EFTA Court is based in Luxembourg and has the competence and authority to settle internal and external disputes regarding the implementation, application or interpretation of the EEA agreement.

4. **European Economic Area (EEA):** It consists of the Member States of the European Union (EU) and three countries of the European Free Trade Association (EFTA) (Iceland, Liechtenstein and Norway, excluding Switzerland). **The Agreement on**

**the EEA entered into force on 1 January 1994.** It seeks to strengthen trade and economic relations between the member countries. **It is principally concerned with the four fundamental pillars of the internal market, namely: the free movement of goods, people, services and capital**

5. **Devka SeaFront:** The Prime Minister, Shri Narendra Modi dedicated to the nation, **Namo Path, Devka Seafront in Daman.** The 5.45 km Devka Seafront is a one-of-its-kind coastal promenade in the country which is **expected to boost the local economy and attract more tourists to the region** while making it a hub for leisure and recreation activities. **The Seafront has been transformed into a world-class tourist destination** including smart lighting, parking facilities, gardens, food stalls, recreational areas and provision for luxury tent cities in future.

### 25th April

1. **First Water Bodies Census:** The Ministry of Jal Shakti has released the report of India's first water bodies census, a comprehensive data base of ponds, tanks, lakes, and reservoirs in the country. **The census was conducted in 2018-19, along with the sixth Minor Irrigation (MI) census and enumerated more than 2.4 million water bodies across all states and Union Territories.** The census defines a water body as all natural or man-made units bounded on all sides with some or no masonry work used for storing water for Irrigation or Other purposes (example industrial, pisciculture, domestic/drinking, recreation, religious, groundwater recharge, etc). A structure where water from ice-melt, streams, springs, rain or drainage of water from residential or other areas is accumulated will also be treated as a waterbody. Water stored by diversion from a stream, nala or river will also be treated as water body.  
**Water bodies excluded:** Oceans and lagoons; Rivers, streams, springs, waterfalls, canals, etc. which are free flowing, without any bounded storage of water; Swimming pools; Covered water tanks created for a specific purpose by a family or household for their own consumption; A water tank constructed by a factory owner for consumption of water as raw material or consumable; Temporary water bodies created by digging for mining, brick kilns, and construction activities, which may get filled during the rainy season; and Pucca open water tanks created only for cattle to drink water. **West Bengal's South 24 Pargana has been ranked as the district having the highest number of water bodies**

followed by Andhra Pradesh's Ananthapur and West Bengal's Howrah.

2. **India-UK 'NET Zero' Innovation Virtual Centre:** In the recent India-UK Science & Innovation Council meeting, India and the United Kingdom announced the establishment of a 'NET Zero' Innovation Virtual Centre aimed at addressing climate change and environmental targets. **It is to enhance their cooperation on science and technology, especially on climate change and environmental issues.** It will provide a platform to bring stakeholders from both countries together to work on some of the focus areas such as the decarbonization of manufacturing process and transport systems, and green hydrogen as a renewable source. **It will support the goal of achieving net zero emissions balancing the amount of greenhouse gases emitted and removed from the atmosphere.** It will also facilitate knowledge exchange, innovation, research and development, capacity building, and policy dialogue between the two countries.

**Key Highlights:** India-UK Science and Technology Cooperation: **The UK has emerged as India's 2nd largest international research and innovation partner.**

**India's Economic and Technological Capabilities:** Energy efficiency and renewable energy are central pillars where India has already taken the lead through various initiatives like the India Solar Alliance and Clean Energy Mission.

**Industry-Academia Collaboration:** The cooperation will provide an opportunity for Indian and UK academia and industry to develop newer products/processes together for the economic growth of both nations.

3. **City Beauty Competition:** Initiative of Ministry of Housing and Urban Affairs.

**Aim:** To encourage and recognize the transformational efforts made by cities and wards in India to create beautiful, innovative and inclusive public spaces. **Wards and public places of cities would be judged against the five broad pillars** (i) accessibility, (ii) amenities, (iii) activities, (iv) aesthetics and (v) ecology. Participation in the City Beauty Competition is voluntary. **The City Beauty Competition would facilitate the most beautiful wards and beautiful public places at the city level.**

4. **Promoting Millets in Diets:** Best Practices across States/UTs of India Report: **The report was released by NITI Aayog.** The report presents a set of good and

innovative practices adopted by states governments and organizations in various aspects of millet value-chain especially production, processing and consumption. **The report in three themes i.e. (a) State Missions and initiatives to promote millets; (b) Inclusion of millets in ICDS; (c) Research and development and use of technology for innovative practices.** The report will serve as a guiding repository to revive and mainstream millets in our diets.

5. **National Technology Centre for Ports, Waterways and Coasts (NTCWPC):** Union Minister of Ports, Shipping and Waterways will inaugurate (NTCWPC) at IIT Chennai. **It is being set up under the Shipping Ministry's flagship Sagarmala Programme.**

**Location:** It has been established in IIT – Discovery Campus at Chennai in Tamil Nadu. It works as the technology arm of the Ministry of Shipping and provides the needful technological support to ports, IWAI and other institutions. **Mandate:** To develop cutting-edge technologies and application products to provide solutions to various challenges faced by the Ports and Shipping Sector. It has world-class capabilities for undertaking 2D and 3D investigations of research and consultancy nature for the Port, Coastal, and Waterway sector across all disciplines.

**26th April**

1. **Unique Land Parcel Identification Number (ULPIN):** It is part of the Digital India Land Records Modernization Programme (DILRMP).

**ULPIN or Bhū-Aadhar is a 14-digit identification number accorded to a land parcel.** It would uniquely identify every surveyed parcel of land and prevent land fraud, especially in rural India, where land records are outdated and disputed.

The identification is based on the longitude and latitude coordinates of the land parcel and depends on detailed surveys and geo-referenced cadastral maps. It aims to compile every detail pertaining to different properties from across the country.

**ULPIN is a Single, Authoritative Source of Truth for information on any parcel of land or property to provide Integrated Land Services to the citizens as well as all stakeholders.** Various types of data relating to the landed properties, which are currently under the possession of different ministries and departments, too will be linked with the ULPIN.



2. **Digital India Land Records Modernization Programme (DILRMP):** It is a **central sector scheme being implemented by the Department of Land Resources under the Ministry of Rural Development.**

**Aim:** It attempts to build upon the commonalities that exist in the arena of land records in various States to develop an appropriate Integrated Land Information Management System (ILIMS) across the country. The ILIMS integrates all the processes and lands records databases with the banks, financial institutions, circle rates, Registration Offices and other sectors.

**Major components:** Computerization of land records, Survey/re-survey, Computerization of Registration.

3. **Operation Kaveri:** It is a rescue operation being carried out by the **Indian Government to bring back Indian citizens stranded in Sudan.**

According to the official data, **the number of Indians in Sudan is around 4,000.** Sudan has been witnessing deadly fighting between the country's army and a paramilitary group, the paramilitary Rapid Support Forces (RSF) that has reportedly left several hundred's dead. It was triggered by disagreement over an internationally backed plan to form a new civilian government four years **after the fall of autocrat Omar al-Bashir and two years after the military coup.** Both sides accuse the other of thwarting the transition.

4. **Sudan:** It is located in **northeastern Africa.** It is bounded on the north by Egypt, on the east by the Red Sea, Eritrea, and Ethiopia, on the south by South Sudan, on the west by the Central African Republic and Chad, and on the northwest by Libya. Capital: Khartoum

Sudan is mainly composed of vast plains and plateaus that are drained by the Nile River and its tributaries. **The country is dominated by Muslims, most of whom speak Arabic and identify themselves as "Arabs. Arabic is the primary language of much of the population** and is the most common medium for the conduct of government, commerce, and urban life throughout the country.

27th April

1. **SCO Defence Ministers Meeting:** SCO defence ministers' meet was hosted by India in its capacity as chair of the grouping. **It was attended by the defence ministers of six other members,** China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, as well as two observer countries Belarus and Iran in person. Pakistan did not turn

up. At the end of the deliberations, all the SCO member countries signed a protocol, expressing their collective will to make the region secure, peaceful and prosperous. **It also highlighted the concept of 'SECURE' floated by PM Modi during the SCO summit in China in 2018.** S stands for **security of citizens,** E for **economic development for all,** C for **connecting the region,** U for **uniting the people,** R for **respect for sovereignty and Integrity** and E stands for **environmental protection.**

2. **Farm Machinery Technology Summit:** The Confederation of Indian Industry (CII) organized the third edition of the Summit on Farm Machinery Technology, which was held at the India Habitat Centre in New Delhi. **The objective of the CII Summit is to address the challenges faced by the sector and chart a growth path for it.** Farm mechanization is an important aspect of agriculture, as it enhances productivity and availability of food grains, increases agriculture exports, mitigates labour shortage and facilitates judicious use of scarce natural resources. **The Indian Government has set an ambitious target of doubling the availability of farm power to 4.0 KW per ha by the end of 2030,** which presents a tremendous opportunity for all stakeholders in the sector. The CII Summit on Farm Machinery Technology provides a platform to deliberate on technology issues and find solutions to overcome them.

3. **SWAGAT Initiative:** State Wide Attention on Grievances by Application of Technology (SWAGAT) initiative of the Government of Gujarat was started in 2003. It is an innovative concept that enables direct communication between the citizens and the Chief Minister, as also between the citizens and other functionaries of the Government. **The fourth Thursday of every month is designated as SWAGAT day,** wherein the highest office in administration attends to the grievances of the common man. **There is a three-tier grievance redressal system under SWAGAT – at State, District and Taluka levels.** It is now extended to the village level also. Grievances submitted at the taluka and district levels are first resolved by the authorities at the respective levels and, thereafter, all pending grievances are reviewed by the Chief Minister himself. An applicant under SWAGAT is given a unique ID through which he/she can access the case details and status online. **The focus in SWAGAT is primarily on the long pending issues. SWAGAT program up to the village level, named as GRAM SWAGAT, was launched on 1st February 2011.** SWAGAT Online program going rural has



helped the rural people living even in the remotest corner of the state to get their problems solved quickly.

- 4. Exercise Ajeya Warrior 2023:** It is the **7th bilateral training exercise between the armies of India and the UK.** The exercise will witness the participation of an infantry company from India and a unit of equal strength from the British Army. The soldiers of both countries will practice using each other's weapons, war tactics, equipment, combined arms concept, operation logistics, sharing of joint force experience, etc. Infantry company: **It is a unit of the armed forces that consists of 100 to 250 soldiers and is led by a captain or a major.**

#### 28th April

- 1. Yellow Fever:** Yellow fever is caused by a virus that is spread by the **Aedes aegypti mosquito**. These mosquitoes thrive in and near human habitations where they breed in even the cleanest water. Haemogogus mosquitoes also spread it and are mostly found in the jungle. It is a fatal disease. It is often associated with jaundice, hence the name yellow.

**Endemic countries:** To WHO, **Yellow fever occurs in 47 endemic countries in Africa in Central and South America.** Around 90% of cases reported every year occur in Sub-Saharan Africa. The disease cannot be spread by contact from one person to another.

**Yellow fever can be prevented by a vaccine that is protective for life.** As single dose of yellow fever vaccine, known as 17D, provides life-long immunity against the disease. There is no specific treatment for yellow fever but good supportive treatment of symptoms, such as dehydration, fever and infection, improves survival rates. Associated bacterial infections can be treated with antibiotics.

- 2. Millets Experience Centre (MEC):** The Ministry of Agriculture and Farmers Welfare and NAFED launched the **first Millets Experience Centre (MEC) at Dilli Haat, INA, New Delhi.**  
**Aim is to promote awareness and adoption of millets among the general public.** It is a dedicated center that showcases the various types of millet available in the country, their nutritional value, and how they can be incorporated into the daily diet. **It aims to educate people about the benefits of consuming millet and to encourage their consumption for better health outcomes and a more sustainable food system.**

- 3. Project 15B:** Four Guided missile Destroyers of Project 15B (P 15B) constructed under M/s Mazagaon Dock Shipbuilders Limited, Mumbai. **The contract for construction of these four ships was signed in 2011.** These ships are amongst the most technologically advanced Guided Missile Destroyers of the world, with state-of-the-art weapon/sensor package, advanced stealth features and a high degree of automation. These ships are equipped with BrahMos supersonic cruise missiles and long-range Surface-to-Air Missiles (SAM).

The ship has several indigenous weapons systems like medium range Surface-to-Air Missile (SAMs), indigenous torpedo tube launchers, anti-submarine indigenous rocket launchers and 76-mm super rapid gun mount. **Under the P-15B (Visakhapatnam Class), a total of four warships are planned (Visakhapatnam, Mormugao, Imphal, Surat).**

The Destroyers come next only to an Aircraft Carrier (INS Vikramaditya) in terms of their reach and endurance. The **Visakhapatnam** and **Mormugao** are already **commissioned in the Indian Navy.**

- 4. AGNI DAMAN-23:** It is a firefighting exercise conducted under the aegis of **Indian Army's HQ, Southern Command.**

**Objective:** Enhance synergy among firefighters to work together in the event of major fire incidents. **A total of 56 firefighting columns including 32 from civil agencies like National Disaster Relief Force (NDRF), State Disaster Relief Force (SDRF) participated in the exercise.** The exercise provided impetus & opportunity to the combatant manpower including central/state agencies to perform coordinated firefighting & render maximum aid in minimum possible time to the affected areas to save precious lives & valuable assets.

#### 29th April

- 1. National Manufacturing Innovation Survey (NMIS):** Recently, Department of Science and Technology released the NMIS 2021-22: Summary for Policymakers. **It is a joint study by the Department of Science and Technology (DST) and the United Nations Industrial Development Organization (UNIDO)**

**Aim of the survey:** To evaluate the innovation performance of manufacturing firms in India.

**It had two specific components:**

**Firm-level survey:** It captured data related to types of innovations and innovative measures taken by firms, including the process of innovation, access to

finance, resources, and information for innovation etc.

**Sectorial System of Innovation (SSI) survey:** It mapped the manufacturing innovation system and its enabling role in achieving innovations in firms. **The SSI study measured the convergence or divergence of current policy instruments in select five key manufacturing sectors important to the Indian economy – textiles; food & beverage; automotive; pharma; and ICT.** The first National Innovation Survey was held in 2011.

- 2. United Nations Industrial Development Organization:** It is a specialized agency of the United Nations with a unique mandate to promote dynamize and accelerate industrial development. **It provides support to its 171 Member States through four mandated functions:** Technical cooperation, Action-oriented research and policy-advisory services, Normative standards-related activities Fostering partnerships for knowledge and technology transfer. India is a member of this organisation.
- 3. Anji Khad Bridge:** It is an under-construction rail bridge in Jammu & Kashmir on the Indian Railways Jammu – Baramulla rail line. It will connect the Union Territory of Kashmir with the rest of the country by train. It is constructed over the Anji River,

a tributary of the Chenab River between Katra and Reasi. Anji Khad Bridge will be the first cable-stayed railway bridge in the country. It is an asymmetrical cable-stayed bridge balanced on the axis of a central pylon. **The total length of the structure is 25 metres. It stands at a height of 331 meters above the river bed.** The bridge has a single-line railway track and a 3.75-metre-wide service road. **The project is being executed by Konkan Railway Corporation Limited (KRCL) and Hindustan Construction Company.**

- 4. Mahila Samman Saving Certificate:** It is a one-time new small savings scheme of the government of India announced in the Budget 2023. **It will be made available for a two-year period up to March 2025.** This will offer deposit facility upto Rs 2 lakh in the name of women or girls for a tenure of 2 years. **The deposit facility will offer fixed interest rate of 7.5 per cent with a partial withdrawal option.** It is a suitable alternative to fixed deposits (FDs) invested in the name of a woman for the short term. The returns are higher than bank FDs and partial withdrawal makes liquidity less of a concern. Interest income is not exempt from tax. **The Scheme will be rolled out through banks and post offices across the country.**



## PLACES IN NEWS

### 1. Reasi District (Jammu & Kashmir)

- Geological Survey of India says that the Lithium reserves found could extend well beyond the original location.
- **Other potential sites of Lithium are Marlagalla–Allapatna region of Karnataka’s Mandya district, Sambhar (Rajasthan) and Pachpadra areas (Rann of Kutch, Gujarat).**

### 2. Maa Kamakhya corridor (Guwahati, Assam)

- On the lines of Kashi Vishwanath Dham (Banaras) and Shree Mahakal Mahalok corridor (Ujjain), **the Government of Assam will construct Maa Kamakhya corridor (Guwahati) Kamakhya Temple at Nilachal Hills in Guwahati, Assam**
- It is one of the oldest and most revered centres of Tantric practices, dedicated to the goddess Kamakhya.
- **The temple is the site of the Ambubachi Mela**, an annual festival that celebrates the menstruation of the goddess.
- It is also **one of the oldest of the 51 pithas in the Shakta tradition**

### 3. Great Nicobar Island (Andaman and Nicobar)

- The tribal council withdrew its no-objection certificate for the Contentious Great Nicobar Island project.
- The project (overseen by NITI Aayog) **aims at developing an international container transshipment terminal, a military-civil dual-use airport, a solar power plant and an integrated township.** However, there have been concerns regarding its impact on coral reefs, indigenous species and mangroves.

### 4. Sapporo (Japan)

- G7 climate and environment ministers concluded in Japan. They **targeted 2040 for reducing additional plastic pollution to zero.**
- Japan is an archipelagic country comprising a stratovolcano archipelago over 3,000 km (1,900 mi) along the Pacific coast of East Asia.
- **The G7 is an informal group consisting of the world's leading industrialized nations - the United States, Britain, Canada, France, Germany, Italy, and Japan.**
- They meet annually to discuss issues such as global economic governance, international security, energy policy, and other current issues.

### 5. Coco Islands (Myanmar)

- China is expanding its ground stations in the Indian Ocean region (IOR) by building a military facility on Coco Islands (Myanmar) which is close to Andaman and Nicobar Island chain. China, through its String of Pearl doctrine, has been practising strategic encirclement around India.
- **The Coco Islands are a small group of islands in the north-eastern Bay of Bengal.** They are part of the Yangon Region of Myanmar

### 6. Ecuador's Galapagos islands

- Scientists have newly discovered a deep-sea coral reef in previously unexplored waters off Ecuador's Galapagos islands.
- **Galápagos Islands (a world heritage site) is a volcanic archipelago in the Pacific Ocean.** It is situated at the confluence of **three ocean currents—Humboldt Current, Panama Flow and Cromwell Current.**
- Charles Darwin visited in 1835, and his observation of Galápagos' species later inspired his theory of evolution.

### 7. Zojila Tunnel

- **Zojila tunnel (Asia's longest tunnel) will provide year-round connectivity between Kashmir Valley and Ladakh.**
- It will pass under the Zojila Pass in the Himalayas between Ganderbal in Kashmir and Drass town in the Kargil district of Ladakh.
- This tunnel will provide year-round connectivity between the Kashmir Valley and Ladakh.

### 8. Bongaigaon, Assam

NTPC and Chempolis India (a leading Finnish bio-refining technology provider), have signed an MoU to explore the feasibility of setting up a **Bamboo-based Bio-Refinery in Bongaigaon, Assam.**

### 9. Dibang Wildlife Sanctuary (Arunachal Pradesh)

The National Tiger Conservation Authority (NTCA) has announced that the **Dibang Wildlife Sanctuary in Arunachal Pradesh will soon become a tiger reserve**, but this decision has caused unrest among the Idu Mishmi tribe, who believe that it will limit their access to the forest.

### 10. Mount Annapurna (Nepal)

- Indian mountaineer who went missing on Nepal's Mount Annapurna has been found alive.
- **Mt. Annapurna I, at 8,091 metres, is the tenth-highest mountain in the world.** It lies east of a great gorge cut through the Himalayas by the Kali Gandaki River, which separates it from the other large massif, the Dhaulagiri.
- **Nepal is a landlocked country in South Asia. It is mainly situated in the Himalayas, but also includes parts of the Indo-Gangetic Plain**

#### 11. Solomon Islands

- A Chinese state-backed company has won a contract to **develop Honiara, a key port in the Solomon Islands.** This is a major victory for China, which is seeking to gain a strategic foothold in the South Pacific.
- **The Solomon Islands is a sovereign country consisting of six major islands** and over 900 smaller islands in Oceania, to the east of Papua New Guinea and northwest of Vanuatu. **Its capital, Honiara, is located on the largest island, Guadalcanal.**
- It is part of the ethnically Melanesian group of islands in the Pacific and lies between Papua New Guinea and Vanuatu.
- The country takes its name from the Solomon Islands archipelago, which is a collection of Melanesian islands that also includes the North Solomon Islands (a part of Papua New Guinea). It excludes outlying islands, such as the Santa Cruz Islands and Rennell and Bellona.

#### 12. Z-Morh Tunnel:

- Z-Morh Tunnel is an **under-construction 2-lane road tunnel between Gagangir and Sonamarg on the Srinagar-Leh Highway in Jammu and Kashmir.**
- It is named for the Z-shaped stretch of road between Sonamarg and Gagangir that the tunnel will replace.
- **Length: 6.5 km**
- The tunnel is designed for the flow of 1,000 vehicles an hour at an approved maximum speed of 80 km per hour

- At 8,960 feet, tourist destination **Sonmarg is covered in snow during the winter season**, forcing locals to shift to Srinagar.
- Z-Morh tunnel will ensure that Sonmarg town in Jammu & Kashmir remains connected as well as supplies are maintained all year round.
- It will **ensure all-weather connectivity** between Srinagar in Jammu and Kashmir and Kargil in Ladakh.
- Along with the 14.15 km Zojila Tunnel to its east, **it aims to enhance the Indian military's capabilities in Kashmir and Ladakh along both the Line of Control (LOC) to the north and the Line of Actual Control (LAC) further east.**

#### 13. Sudan

India has started '**Operation Kaveri**' to evacuate **its nationals owing to the Current Crisis in Sudan.** Around 3,000 Indians are stuck in various parts of Sudan, including capital Khartoum and in distant provinces like Darfur.

##### What is Operation Kaveri?

- Operation Kaveri is a **codename for India's evacuation effort to bring back its citizens stranded in Sudan** amid intense fighting between the army and a rival paramilitary force there.





## EDUFACTS

### 1st April

1. CERT-in may be exempted from giving information under **RTI Act**, says centre.
2. **Australia**, the **world's biggest exporter of lithium**, seeks diversified market
3. UK to join **trans-Pacific partnership trade treaty**
4. Centre's dividend receipts exceeded the revised estimates by 39% making up for the 29% shortfall in disinvestment receipts in 2022-23
5. Rising Antarctic ice melt will greatly slow global ocean flows by 40%
6. **2nd G20 tourism** working group is being held in **West Bengal (1st meeting in Gujarat)**

### 4th April

1. Only Government can take call on plea of disqualified lawmakers, Election Commission tells Supreme court
2. Motivated PILs pose grave danger to credibility of the judicial process: High court
3. After pandemic, poverty kept falling every quarter from **July- Sept 2020**

### 5th April

1. The **services sector-** and then the **construction sector-** were the **fastest growing industries** in India: World Bank
2. **Gujarat and Karnataka:** top exporters of petroleum oil in India
3. **Lokpal** closes **68% corruption complaints** against public officers without action
4. **Finland** joins **NATO bloc**

### 6th April

1. UP and Calcutta High court pendency: 63% whereas Tripura, Sikkim, Meghalaya pendency is less than 10%
2. Gaj utsav 2023 to be celebrated in **Assam's Kaziranga National Park**
3. SC says critical views on Government, policies not anti establishment
4. India gets elected to **UN Statistical Commission** beginning **2024** for a 4 year term
5. Legal aid clinics reduced by 44% despite states increasing the budget: India Justice Report

### 10th April

1. 7th april was celebrated as the **World Health Day** with the theme Health for All

2. At present, **less than 1%** of the country's cattle population is insured
3. No scientific data to oppose same sex marriage: Indian Psychiatric Society
4. At least **10% women officers** to be inducted into **Army's artillery units**
5. **Mizoram and Assam** have emerged as new "**active sectors**" in 2022 due to rise in intruder apprehension: BSF

### 12th April

1. Share of pre hypertension teenagers rises across most states
2. India to hold **Youth-20 Summit of G20** in Leh
3. The **16th Lok Sabha** had the lowest number of sitting days (**331**) in **5 years**
4. From 1951 to 2022, there have been **15 El nino years**

### 14th April

1. SC initiates steps for inclusive infrastructure for LGBTQIA+ by creating **9 universal restrooms** within its premises
2. Lok Ayukta cannot probe matters relating to selection of candidates by political parties: SC
3. **Cyclone Ilsa** is **Australia's most powerful** storm in 8 years

### 15th April

1. Drones to deliver life saving drugs to **char dham pilgrims**
2. First-ever visit by an **External Affairs Minister of India to Mozambique**

### 18th April

1. **Jamnagar in Gujarat** is the top exporting district in India followed by **Surat** and **Mumbai**
2. India to host **1st International Buddhist Summit** in April.
3. G7 environment ministers commit to **decarbonise power grids by 2035**

### 20th April

1. India's population to edge ahead of China's by mid 2023- UN
2. India is the **world's largest milk producer**
3. States cannot discriminate against individuals over sexuality: SC

### 21st April

1. **Kerala** comes under the watch of AI enabled cameras to **monitor traffic**.

2. Only **China, India and Mexico** have shown improvement in public perception of vaccination, **out of 55 countries**: UNICEF

3. Buddha's teachings can solve most **contemporary global problems**: PM

4. SC ruling in Navtej Singh Johar case of 2018 was a **"rainbow of hope"**: CJI



## Practice MCQs on Current Affairs- April 2023

**Q.1) With reference to the Captive Employment Initiative, consider the following statements:**

1. It is an initiative of Ministry of Skill development
2. The Captive Employment Guidelines ensure the RTD (Recruit, Train and Deploy) model.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

Captive Employment is a first-of-its-kind initiative by **The Union Ministry of Rural Development (MoRD)** to train and provide jobs for rural youth under the **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)**.

- The Captive Employment Guidelines ensure the **RTD (Recruit, Train and Deploy) model**.
- The RTD model **addresses the needs of the industry, trains accordingly and ensures sustainable placements for rural youth**.
- **Captive Employers are required to:** Offer captive (in-house) placement to all the trained candidates, Provide captive employment to a minimum of 70% of trained candidates for 6 months.

**Q.2) Yars intercontinental ballistic missile, recently seen in the news, belongs to which one of the following countries?**

- (a) Japan
- (b) Russia
- (c) USA
- (d) China

**Ans:- Option B**

- The Yars (also known as RS-24 or SS-29) is a **Russian intercontinental ballistic missile (ICBM)**.
- It is a **three-stage solid-fuel missile** and can be launched from a silo or mobile launcher.
- It has a **range of 12 000 km**.

**Q.3) Consider the following statements regarding the Kharai Camels:**

1. They are found all over North Western India

2. They are classified as least concern under the IUCN Red List.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D**

- They are a **rare breed of camel** found in the salt marshes of the **Kutch district of Gujarat**.
- It is well adapted to the **saline desert environment** and is **known for its ability to swim** (hence also known as 'swimming camel'). They swim long distances in the sea to reach their grazing areas. Kharai camels mostly **feed on mangroves**.
- They are considered a **unique Eco-tonal species** as they survive in the dryland ecosystem as well as the coastal ecosystem.

**IUCN: Endangered**

**Q.4) Consider the following statements regarding the Global Wind Energy Council (GWEC):**

1. It is a member-based trade association that represents the entire wind energy sector.
2. It publishes the Global wind report

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

- It is a **member-based trade association** that represents the entire wind energy sector.
- It was **established in 2005** to provide a credible and representative forum for the **entire wind energy sector at an international level**.
- **Headquarters:** Brussels, Belgium.
- **Mission:** To promote the development and deployment of wind power as a sustainable and
- **Reports published:** Global Wind Report

**Q.5) Consider the following statements regarding Suez Canal.**

1. The Suez Canal is an artificial waterway in Egypt, connecting the Mediterranean Sea to the Red Sea through the Isthmus of Suez.

2. The Suez Canal lies at an elevation lower than the sea level which often causes blocking of the canal

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

The Suez Canal is an **artificial sea-level waterway in Egypt**, connecting the **Mediterranean Sea** to the **Red Sea** through the **Isthmus of Suez** and dividing Africa and Asia. The 193.30 km long canal is a popular trade route between **Europe** and **Asia**.

**Q.6) 'OIOS' System, recently seen in the news, is related to which one of the following?**

- (a) Promotion of tribal languages
- (b) Application for financial auditing.
- (c) Campaign to curb vaccine hesitancy.
- (d) Predicting weather patterns

**Ans:- Option B**

- It is an **enterprise-wide end-to-end IT application**.
- It is a **web-enabled solution with support for multiple languages with, offline functionality, and a mobile app**. All new audit work in offices under the CAG will take place only through OIOS. All audit work can be carried out digitally.
- Offices will not have to go through files physically, and records can be maintained for eternity.

**Q.7) Consider the following statements regarding the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP):**

1. It is a free trade agreement (FTA) between 18 nations of Asia Pacific
2. UK will become the first new member of CPTPP.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- It is a **free trade agreement (FTA) between 11 nations**: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.
- It was **signed in March 2018**.

- It succeeded the **Trans-Pacific Partnership (TPP)** after the United States withdrew from the TPP in 2017. **All 11 countries of CPTPP are members of the Asia-Pacific Economic Cooperation (APEC)**.
- **UK will become the first new member, and the first in Europe, to join the CPTPP**

**Q.8) Consider the following statements regarding the Export Promotion Capital Goods (EPCG) Scheme:**

1. It allows the duty-free import of capital goods for the purpose of export production in India.
2. It is implemented by DPIIT.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- The EPCG scheme is administered by the **Directorate General of Foreign Trade (DGFT)** and is **governed by the Foreign Trade Policy of India**.
- EPCG Scheme **allows import of capital goods for pre-production, production and post-production** at zero customs duty.
- It **covers manufacturer exporters** with or without supporting manufacturer(s), **merchant exporters** tied to supporting manufacturer(s) and **service providers**.
- Second-hand goods of any nature will not be permitted under the EPCG scheme.

**Q.9) With reference to the 'Foreign Trade Policy, 2023', consider the following statements:**

1. The trade policy targets \$8 trillion worth of exports of goods and services.
2. The policy shows a shift from incentive-based to remission-based regime.
3. The policy's end-date is 2030.

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 2 only
- (c) 1 and 2 only
- (d) 2 and 3 only

**Ans:- Option B**



- In the **foreign trade policy, which will come into effect from April 1**, the Government reiterated its \$2 trillion target for exports of goods and services by 2030 with a shift from incentives to remission and entitlement-based regime.
- The new foreign trade policy **has not put any end-date to the trade policy targets**, with officials saying the policy will be dynamically updated based on feedback from stakeholders.

**Q.10) Consider the following pairs:**

Island	Region associated
1. Snake Island	Black Sea
2. Spartly Island	Sea of Azov
3. Senkaku Island	South China sea
4. Katchatheevu Island:	Indian Ocean

**Which of the following pairs is/are correct:**

- (a) Only one pair
- (b) Only two pair
- (c) Only three pair
- (d) All the pairs

**Ans:- Option B**

- **Snake Island:** Black Sea
- **Spartly Island:** South China Sea
- **Senkaku Island:** East China Sea
- **Katchatheevu Island:** Indian Ocean

**Q.11) With reference to the Palamau Tiger Reserve, consider the following statements:**

1. It is located in the Chota Nagpur plateau region of Odisha
2. This tiger reserve is surrounded by the Auranga River in the North.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- It is located in **Jharkhand**.
- 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**. Many aquifers locally called 'Chuan' are also present inside the reserve. **A sulfur hot spring 'Tatha' is present near Barwadih**

**Q.12) National Green Tribunal can hear cases under which of the following acts:**

1. The Forest (Conservation) Act, 1980;
2. The Air (Prevention and Control of Pollution) Act, 1981;
3. The Environment (Protection) Act, 1986;
4. Indian Forest Act, 1927

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 3 and 4 only
- (c) 1, 2 and 3 only
- (d) 1, 3 and 4 only

**Ans:- Option C**

The NGT has the power to **hear all civil cases relating to environmental issues** and questions that are linked to the implementation of laws listed in Schedule I of the NGT Act. **These include the following:**

- The Water (Prevention and Control of Pollution) Act, 1974;
- The Water (Prevention and Control of Pollution) Cess Act, 1977;
- The Forest (Conservation) Act, 1980;
- The Air (Prevention and Control of Pollution) Act, 1981;
- The Environment (Protection) Act, 1986;
- The Public Liability Insurance Act, 1991;
- The Biological Diversity Act, 2002.

**The NGT has not been vested with powers to hear any matter relating to the Wildlife (Protection) Act, 1972, the Indian Forest Act, 1927 and various laws enacted by States relating to forests, tree preservation etc.** Therefore, specific and substantial issues related to these laws cannot be raised before the NGT.

**Q.13) With reference to Pradhan Mantri Fasal Bima Yojana, consider the following statements:**

1. The selection of insurance companies from amongst the empanelled insurance companies to act as implementing agency shall be done by the Ministry of Finance
2. In case of post-harvest losses, coverage is available upto a maximum period of 14 days from harvesting for those crops.

**Which of the statements given above is/are correct?**

- (a) 1 only

- (b) 2 only
- (c) Both
- (d) None

**Ans:- Option B**

DAC&FW has designated/empanelled **Agriculture Insurance Company of India (AIC)** and some private insurance companies presently to **participate in the Government sponsored agriculture /crop insurance schemes based on their financial strength, infrastructure, manpower and expertise etc.** The selection of insurance companies from amongst the empanelled insurance companies to act as Implementing Agency shall be done by the concerned State Government for implementation of the scheme in their State.

**Q.14) Consider the following statements regarding Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund.**

1. It is a social impact fund specifically formed for completing stressed and stalled residential projects.
2. The Fund is sponsored by Ministry of Housing and Urban Affairs (MoHUA).
3. The Fund does not finance those projects which are under litigation

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 1, 3
- (c) 2, 3
- (d) 1, 2, 3

**Ans:- Option A**

The Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund I is a **social impact fund** specifically formed for completing stressed and stalled residential projects. **The Fund is sponsored by the Ministry of Finance, Government of India, and is managed by SBICAP Ventures Ltd., a State Bank Group company.**

- Since the Fund considers first-time developers, established developers with troubled projects, developers with a poor track record of stalled projects, customer complaints and NPA accounts, and even projects where there are litigation issues, **it is considered as the lender of last resort for distressed projects.** The Fund's presence in a project often acts as a **catalyst for better collections and sales** primarily in projects that were delayed for years.

**Q.15) Which of the following are the sources of arsenic contamination?**

1. Intense exploitation of groundwater
2. Weathering of rocks and minerals followed by leaching and runoff
3. Iron coprecipitation
4. Burning of coal

**Select the correct answer code:**

- (a) 1, 2, 3
- (b) 1, 2, 4
- (c) 2, 3, 4
- (d) 1, 2, 3, 4

**Ans:- Option B**

The sources of arsenic are **natural or may partly stem from anthropogenic activities** like intense exploitation of groundwater, application of fertilizers, burning of coal and leaching of metals from coal-ash tailings. Arsenic is **introduced** into soil and groundwater **during weathering of rocks and minerals followed by subsequent leaching and runoff.** Among the various arsenic removal technologies, **lime softening and iron coprecipitation have been reported to be the most effective.**

**Q.16) With reference to the Amogha-III Missile, consider the following statements:**

1. It has a fire-and-forget capability which requires external intervention after the launch.
2. It has been developed with the help of France

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D**

Amogha-III is an **indigenous missile** which has been developed under **Integrated Guided Missile Development Programme (IGMDP).**

- It has a fire-and-forget capability and does not require external intervention after the launch. The missile also **features dual-mode Imaging Infra-Red (IIR) Seeker systems** with a range of 200 to 2500 meters.
- It showcases a tandem warhead, consisting of two separate explosive charges that are detonated in sequence.
- The **first charge, known as the precursor charge,** penetrates the target's armour, creating a hole for

the **second charge, the main charge**, to detonate inside, maximizing damage inflicted on the target.

- One of the **unique features of the missile** is it has **both top and direct attack modes**.

**Q.17) Kibo and Shira, recently seen in news are related to which of the following:**

- (a) New virus strains discovered in China
- (b) Anti tank missiles supplied to Ukraine
- (c) Volcanic peaks of Mt. Kilimanjaro
- (d) Bromus swift butterfly species

**Ans:- Option C**

Mount Kilimanjaro is **Africa's tallest mountain and the world's largest free-standing mountain** (which means not part of a mountain range) located in Tanzania.

- It has **three main volcanic peaks namely: Kibo, Mawenzi, and Shira**.
- Amongst these three peaks, **Kibo is the tallest and a dormant volcano while the other two are extinct volcanoes**. The mountain is also known for its snow-capped peak.
- The Kilimanjaro National park was **named a UNESCO World Heritage site in 1987**.

**Q.18) In the context of wheat cultivation in India, which of the following statements is/are correct?**

1. About 85% of the total area under this crop is concentrated in the north and central regions of the country.
2. The yield level of wheat is very high in Punjab and Bihar
3. India is the largest producer of Wheat in Asia.

**Select the correct answer using the code given below.**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option A**

Wheat is the **second most important cereal crop** in India after rice. **India produces about 12.8%** of the world's total wheat production (2017), **with China occupying the 1<sup>st</sup> position**

- **Uttar Pradesh, Madhya Pradesh, Punjab, Haryana, and Rajasthan are leading wheat producing states**. The yield level of wheat is very high in Punjab and Haryana whereas Uttar Pradesh, Rajasthan and Bihar have moderate yields.

- There is **nearly four-fold rise in India's per hectare yield of wheat** since 1960s.

**Q.19) Consider the following statements regarding The Organization of the Petroleum Exporting Countries (OPEC):**

1. It is a temporary intergovernmental Organization, created at the Baghdad Conference.
2. It established OPEC fund as a multilateral development finance institution to fund non-member countries exclusively

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- It is a **permanent, intergovernmental Organization, created at the Baghdad Conference on September 10–14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**. (original five)
- The OPEC Fund for International Development is a **multilateral development finance institution established in 1976**. Its **12 Member Countries are: Algeria, Ecuador, Gabon, Indonesia, IR Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates and Venezuela**.
- It is the **only globally mandated development institution** that provides financing from member countries to non-member countries exclusively.

**Q.20) With reference to the Reusable Launch Vehicle-Technology Demonstration (RLV-TD), consider the following statements:**

1. It can be used as a test bed to evaluate various technologies like hypersonic flight and autonomous landing.
2. It has a combination of both launch vehicles and aircraft.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

**Q.21) Izu-Ogasawara Trench, which was recently seen in the news, is located between which 2 plates:**

- (a) Arabian and African plate
- (b) Nazca and South American plate
- (c) Philippine Sea and the Pacific Plate
- (d) India and Eurasian plate

**Ans- Option C**

Recently, scientists photographed a snailfish swimming 8,336 meters below sea level near Japan, making it the **deepest recorded fish ever caught on camera**. It is **located in the western Pacific Ocean**, on the boundary between the Philippine Sea Plate and the Pacific Plate. It is **one of the most seismically active regions on Earth**

**Q.22) With reference to the Basholi paintings, consider the following statements:**

1. Basholi paintings originated in the Basholi region of Jammu and Kashmir.
2. It is considered the first school of Apabhramsha paintings.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

Recently, **Basohli Painting of Jammu has obtained the Geographical Indication (GI) Tag**.

- It is a **reputed school of miniature paintings** known for its vivid, evocative colours, bold lines, and deep-set facial patterns. It is **considered the first school of Pahari paintings**.
- It has peculiar characteristics, they have **perfect geometrical patterns, bright colours and glossy enamel**.
- **Colours used:** Ochre yellow, brown, and green grounds predominating.
- The figures in the paintings are shown clad in rich costumes, stylised faces and large bulging eyes lent unique individuality to these paintings.
- **Themes:** The portraits of local rulers, Radha-Krishna, and Madhava-Malati love themes and themes from the Bhagavata Purana.
- These are **painted on paper, cloth, or wood using natural pigments and dyes**.

**Q.23) It is the 12th major port of India. Located on the Coromandel Coast of Chennai, Tamil Nadu, It is the only corporatized major port in India and is registered as a company.**

**Which of the following represents the above mentioned port:**

- (a) Jawaharlal Nehru port
- (b) Kandla port
- (c) Chennai port
- (d) Ennore port

**Ans:- Option D**

Kamarajar Port (erstwhile Ennore Port) is the **12th major port of India**.

**Q.24) With reference to the UN Water Conference 2023, which of the following statements is/are correct?**

1. The first UN Water Conference was held in 2012.
2. It promised for global funding and a concerted effort to provide drinking water and sanitation for all.

**Select the correct answer using the codes given below.**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D**

- Recently, **The United Nations 2023 Water Conference was held in New York** (the first such meeting on water after 46 years). Also, a mid-term review of the UN Decade for Action on Water and Sanitation (2018-2028) was held at the conference.
- The **conference resulted in 713 voluntary commitments by philanthropic donors, governments, corporations, and NGOs**, including a \$50 billion commitment from India to improve rural drinking water services.
- There is no provision for funding from developed countries.
- **Use of W12+ Blueprint, a UNESCO platform** that hosts city profiles and case studies of programs (for cross cities learning).

**Q.25) With reference to the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, consider the following statements:**



1. Both Archaeological Survey of India and National Monument Authority are statutory bodies under this act
2. Prohibited areas around the protected monuments are extended up to 100 metres in all directions.
3. Categorisation of historical sites is made on the recommendation of National Monument Authority

**Which of the statements given above are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans:- Option B**

The ASI is **the premier organization for the archaeological researches** and protection of the cultural heritage of the country.

- **Established: 1861 by Alexander Cunningham**, It regulates all archaeological activities as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
- NMA is established under The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010 (AMASR Act, 2010).
- **Director-General of Archaeological Survey of India (ASI) is an ex officio Member.**

**Q.26) Consider the following statements with respect to International Renewable Energy Agency (IRENA)**

- 1) It is an intergovernmental organisation that supports countries in their transition to a sustainable energy future.
- 2) It is headquartered in Geneva, Switzerland

**Which of the statements given above are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

The **International Renewable Energy Agency (IRENA)** is headquartered in Masdar City, Abu Dhabi. IRENA is an official United Nations observer

- It **released the World Energy Transitions Outlook report.**
- It **estimated that by 2050, 90% of total electricity needs would be supplied by renewables**, followed by 6% from natural gas and the remaining from nuclear.

**Q.27) With reference to Sodium cyanide, consider the following statements:**

1. It is made up of higher numbers of sodium cations than cyanide anions.
2. It is used as an insecticide and a test reagent for the function of chemoreceptors.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- Sodium cyanide appears as a white crystalline solid, lump solid or powder.
- It **contains equal numbers of sodium cations and cyanide anions.**
- It is **used as an insecticide**, a test reagent for the function of chemoreceptors, and in many industrial processes.
- It is **also used for the extraction of gold and silver** from their respective ores, dyes, pigments, and bulk drugs.

**Q.28) Consider the following statements with respect to UN Statistical Commission**

1. It is a Functional Commission of the United Nations Economic and Social Council
2. The term of office of member countries is 5 years.
3. Its 24 member states are elected by the Economic and Social Council on the basis of geographical distribution

**Which of the statements given above are correct?**

- (a) 1 and 3 only
- (b) 2 only
- (c) 3 only
- (d) 2 and 3 only

**Ans:- Option A**

**The term of office of members is four years.**

- Its **24 member states are elected by the Economic and Social Council on the basis of the following geographical distribution:** African states (5), Asian States (4), Eastern European States (4), Latin American and Caribbean States (4), Western European and other States (7).
- The **United Nations Statistical Commission, established in 1947, is the highest body of the**

**global statistical system** bringing together the Chief Statisticians from member states from around the world.

- The Statistical Commission **oversees the work of the United Nations Statistics Division (UNSD)**, and it is a Functional Commission of the UN Economic and Social Council.

**Q.29) With reference to "Malware as a Service (MaaS)", consider the following statements:**

1. Attacks-as-a-Service, Malware-as-a-Service and Fraud-as-a-Service, are all terms used to better qualify the complex evolution of cybercrime offer.
2. It makes it easier for cybercriminals to launch attacks and evade detection.
3. Under the model software is provided on a subscription or pay-per-use basis.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

**Ans:- Option D**

Malware as a Service (MaaS) is a **type of cybercrime model** where **malware is offered for sale or rent by cyber criminals as a service to other hackers or malicious actors on the internet.**

**Q.30) In India, Black panther can be found in which of the following places?**

1. Tadoba Andhari Tiger Reserve
2. Anshi Dandeli Sanctuary
3. Nilgiri Biosphere Reserve
4. Kabini Wildlife Sanctuary

**Select the correct answer code:**

- (a) 1, 2
- (b) 1, 2, 3
- (c) 2, 3, 4
- (d) 1, 2, 3, 4

**Ans;- Option D**

**Q.31) Consider the following statements regarding a Quasar:**

1. It is an extremely active and luminous type of active galactic nucleus (AGN).
2. The brightest quasars can outshine all of the stars in the galaxies

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

A quasar is an **extremely active and luminous type of active galactic nucleus (AGN).**

- An AGN is nothing more than a **supermassive black hole** that is active and feeding at the center of a galaxy.
- Quasars are thought to form in regions of the universe where the **large-scale density of matter is much higher than average.**
- Most quasars have been found billions of light-years away.
- Quasars **emit energies of millions, billions, or even trillions of electron volts.** This energy exceeds the total of the light of all the stars within a galaxy.

**Q.32) With reference to the Solar eclipse, consider the following statements:**

1. Total solar eclipse occurs when the Earth passes between the Moon and Sun and blocks the face of the Sun completely.
2. A hybrid eclipse is a type of solar eclipse that looks like an annular solar eclipse or a total solar eclipse, depending on the observer's location

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- A total solar eclipse happens **when the Moon passes between the Earth and Sun while completely blocking the face of the Sun.**
- It will be visible to the people located in the centre of the Moon's shadow when it hits Earth.
- **An annular solar eclipse happens when the moon is farthest from the Earth, which is why it seems smaller.**
- In this type of eclipse, the moon does not block the sun completely but looks like a "dark disk on top of a larger sun-coloured disk" forming a "ring of fire."

**Q.33) With reference to the amendments to Prevention of Money Laundering Act, which of the following statements is/are correct?**

1. The trade in Virtual digital assets are not covered under the act
2. While “Politically Exposed Persons” (PEPs) are covered under this, their definition continues to remain vague
3. The definition of “non-profit organization” has been expanded to include any entity or organization constituted for religious or charitable purposes.

**Select the correct answer using the codes given below.**

- (a) 1 only
- (b) 3 only
- (c) 1 and 2 only
- (d) 1,2 and 3

**Ans:- Option B**

It has defined “politically exposed persons” (PEPs) under the Prevention of Money Laundering Act (PMLA) in line with the recommendations of the Financial Action Task Force (FATF). (it individuals who have been “entrusted with prominent public functions by a foreign country, including the heads of States or Governments, senior politicians, senior government or judicial or military officers, senior executives of state-owned corporations and important political party officials”. The amendment is in relation to foreign PEPs and not domestic ones.)

**Cryptocurrencies and virtual digital assets trade** would come under money laundering provisions under the PMLA.

**Q.34) Consider the following pairs:**

Project	Country Associated
Arun 3	India
Kurichhu	Bhutan
Pancheswar	Nepal
Rangit	Bangladesh

**How many pairs given above is/are correctly matched?**

- (a) One pair only
- (b) Two pairs only
- (c) Three pairs only
- (d) All the pairs

**Ans:- Option B**

- **Arun 3:** Nepal
- **Rangit:** Sikkim

- **India** has so far **constructed four Hydroelectric Projects in Bhutan** including the 60 MW Kurichhu HEP; 1020 MW Tala HEP; the 336 MW Chukha HEP; and the 720 MW Mangdechhu HEP.

**Q.35) With reference to the International Finance Corporation, consider the following statements:**

1. It provides loans for the growth of the private sector in developing countries.
2. India is not a member of this corporation.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It was founded in **1956** with **Washington, DC** as its **headquarters**.
- It is a **member of the World Bank Group**.

**Mandate:** Advance economic development and improve the lives of people by encouraging the growth of the private sector in developing countries

**Q.36) Which of the following depicts the ‘Prasthan Exercise’, recently seen in the news:**

- (a) It is a bilateral maritime exercise between India and Bangladesh
- (b) Exercise by Indian navy for ensuring offshore security
- (c) Tri service drill conducted by Navy, Army and Air force
- (d) Maritime exercise by QUAD grouping

**Ans:- Option B**

- The exercise is **held every six months under the aegis of the Indian Navy** and involves the participation of all stakeholders in the maritime domain.
- This exercise is an **important element of ensuring offshore security** and aims to integrate the efforts of all maritime stakeholders involved in offshore defence.

**Q.37) With reference to the Muthuvan tribe, consider the following statements:**

1. They reside in the hill forests of Kerala and Tamil Nadu.
2. They follow Vaishnavism and Buddhism mostly

Which of the statements given above is/are correct?

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- The Muthuvan people live on the border hill forests of **Kerala** and **Tamil Nadu**.
- Muthuvan are **animists** and **spirit worshippers** and also worship the forest gods.
- They believe that the spirits of their ancestors are to be the first migrants to the hill forests.
- The Muthuvan tribe has a **unique system of governance called the 'Kani System'**.
- Under this system, each village is headed by a 'Kani', who is responsible for the administration of the village.

**Q.38) Finland shares its borders with which of the following countries:**

1. Russia
2. Sweden
3. Estonia
4. Denmark
5. Norway

Select the correct answer using the codes given below.

- (a) 1, 2, 3
- (b) All of the above
- (c) 1,2,5
- (d) 2,4,5

**Ans:- Option C**

Finland is **part of Scandinavia** (a geographical region) in northern Europe, and shares **land borders** with **Norway, Sweden, and Russia**.

**Q.39) With reference to PM MUDRA Yojana, which of the following statements is/are correct?**

1. It is a scheme launched for providing loans up to 10 lakh to the corporate and small farmers enterprises.
2. Foreign banks are prohibited from financing projects under the scheme
3. There is 10% subsidy given on the loans by Centre government.

Select the correct answer using the code given below.

- (a) 1 only

(b) 2 and 3 only

(c) 3 only

(d) None of the above

**Ans:- Option D**

- Pradhan Mantri MUDRA Yojana (PMMY) is a **scheme launched in 2015** for providing loans up to 10 lakh to the non-corporate, non-farm small/micro enterprises.
- It **enables a small borrower to borrow from all Public Sector Banks** such as PSU Banks, Regional Rural Banks and Cooperative Banks, Private Sector Banks, Foreign Banks, Micro Finance Institutions (MFI) and Non-Banking Finance Companies (NBFC). **The financial limit for these schemes are:**
  - **Shishu:** covering loans up to 50,000/-
  - **Kishor:** covering loans above 50,000/- and up to 5 lakh
  - **Tarun:** covering loans above 5 lakh to 10 lakh
- **Any individual including women, proprietary concern, partnership firm, private limited company** or any other entity are eligible applicant under PMMY loans, **whose loan requirement is up to 10 lakh.**
- There is no subsidy for the loan given under PMMY.

**Q.40) With reference to Cannabis cultivation, consider the following statements:**

1. In India under the Narcotic Drugs and Psychotropic Substances Act, of 1985 the sale and production of cannabis resin and flowers is prohibited.
2. The farming of cannabis has been legalised in Uttarakhand.

Which of the statements given above is/are correct?

(a) 1 Only

(b) 2 Only

(c) Both 1 and 2

(d) Neither 1 nor 2

**Ans:- Option C**

- The NDPS Act **prohibits the sale and production of cannabis resin and flowers, but the use of leaves and seeds of the cannabis plant is permitted.**
- The states have the power to regulate and form the state rules for it.
- **In India farming of cannabis has been legalised in Uttarakhand**, and controlled cultivation of cannabis is also being done in some districts of Gujarat, Madhya Pradesh and Uttar Pradesh.



**Q.41) With reference to the National Mission in Interdisciplinary Cyber-Physical Systems, consider the following statements:**

1. It is a comprehensive mission which addresses technology development in cyber-physical Systems and other associated technologies.
2. It was launched in 2018 for a period of ten years.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It was **launched in 2018** for a period of five years.
- As part of the Mission implementation, **25 Technology Innovation Hubs (TIHs) have been established** in advanced technologies in reputed institutes across the country.
- It is being **implemented by Ministry of Science and Technology**
- Cyber-Physical Systems combine **digital/cyber elements with physical objects** (e.g. machines, autonomous vehicles) and data with capabilities of communication, data collection & processing, computing, decision making and action
- It is an **integrated system involving Sensors, Communication, Actuators, Control, interconnected computing networks and data analytics.**

**Q.42) Which one of the following is the best description of 'Raccoon Stealer', that was in the news recently?**

- (a) It is an anti poaching drive against raccoons.
- (b) It is a stealth guided missile.
- (c) It is an information-stealing malware.
- (d) It is a facial recognition technology of Government.

**Ans:- Option C**

- It is a kind of malware that steals various data from an infected computer.
- It is a **classic example of information-stealing malware**, which cybercriminals typically use to gain possession of sensitive data saved in users' browsers and cryptocurrency wallets.

- In the case of browsers, targeted data typically includes cookies, saved login details, and saved credit card details.
- In the case of cryptocurrency **wallets (henceforth, 'crypto-wallets'), targeted data typically includes public keys, private keys, and seed phrases**

**Q.43) Consider the following statements regarding Rare Earth Elements (REE):**

1. They are a set of seventeen elements in the periodic table which include metals and non-metals.
2. They are called rare earth because of their low availability.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

REE are all metals, and **the group is often referred to as the "rare earth metals."**

- Although called "rare", they are actually found relatively abundantly in the Earth's crust.

**Why they are called "rare"?**

These metals are **very difficult to mine** because it is unusual to find them in **concentrations high enough for economical extraction.**

**Q.44) Which of the following statements is correct as far as Critical wildlife habitats (CWHs) are concerned:**

- (a) The Critical Wildlife Habitats have been envisaged in Wildlife Protection Act 1972
- (b) The power to notify the rules to designate a CWH rests with Ministry of Environment and Forests.
- (c) The National Board for Wildlife needs to initiate the process for notification of a critical wildlife habitat by submitting an application on a case by case basis
- (d) CWH notification has to go through public scrutiny once consultations have been carried out.

**Ans:- Option B**

Forest Rights Act, 2006 (FRA) defines CWHs as 'areas of national parks and sanctuaries where it has been specifically and clearly established, case by case, on the basis of scientific and objective criteria, that such areas are required to be kept as inviolate for the purposes of wildlife conservation'.

- **The power to notify the rules to designate a CWH rests with Ministry of Environment and Forests.** The State Government are needed to initiate the process for notification of a critical wildlife habitat by submitting an application on a case by case basis, to the **Ministry of Environment and Forests, which is the nodal agency** under the said Act. Critical Wildlife Habitats are thus, declared by Central Government ONLY.
- In order to notify a CWH, the Act requires State Governments to establish that the presence of right-holders is causing irreversible damage to wildlife and their habitats.

**Q.45) Consider the following statements regarding United Nations Democracy Fund:**

1. It funds projects that empower civil society and encourage the participation of all groups in democratic processes.
2. It works on obligatory as well as voluntary contributions.
3. The advisory board includes member states representing different continents.

**Which of the following statements is/are correct:**

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 only
- (d) 2 and 3 only

**Ans:- Option C**

- UNDEF funds projects that **empower civil society, promote human rights, and encourage the participation of all groups in democratic processes.**
- UNDEF subsists entirely on **voluntary contributions** from Governments;
- The Board comprises those **UN Member States** who have made the **largest cumulative financial contributions to the Fund** over the previous **three years**; a number of UN Member States reflecting geographical diversity; international civil society organizations; and individuals serving in a personal capacity.

**Q.46) With reference to the International Prize in Statistics, consider the following statements:**

1. It is awarded every year by UN Statistical Commission
2. It is given to an individual as well as to a group of people.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- Recently, Indian-American **mathematician CR Rao was awarded International Prize in Statistics, in 2023.** The International Prize in Statistics is awarded every two years by a collaboration among five leading international statistics organisations.
- The prize recognises a major achievement by an individual or team in the statistics field.
- The prize is modelled after **the Nobel prizes, Abel Prize, Fields Medal and Turing Award** and is called **Math's Nobel.**

**Q.47) Which of the following bodies release the State Energy Efficiency Index**

- (a) NITI AAYOG
- (b) Bureau of Energy Efficiency (BEE)
- (c) Dept. of New and Renewable energy
- (d) Solar corporation of India

**Ans:- Option B**

- It is developed by the **Bureau of Energy Efficiency (BEE)** in **association with Alliance for an Energy-Efficient Economy (AEEE).**
- SEEI 2021-22 has an updated framework of 50 indicators aligned with national priorities.
- **The State Energy Efficiency Index (SEEI) 2021-22 is given to all Indian states based on their energy efficiency initiatives.**
- **5 states** - Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana - are in the **Front Runner category (>60 points).**

**Q.48) With reference to the United Nations Democracy Fund, consider the following statements:**

1. It is financed by UN member nations from the budgetary allocations.
2. India is one of the founding members of this initiative.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- It was created by the **former UN Secretary-General Kofi Annan in 2005 as a United Nations General Trust Fund** to support democratization efforts around the world.
- It is used to empower civil society, promote human rights, and encourage the participation of all groups in democratic processes. India is a founding member of UNDEF.
- **Funding:** It subsists entirely on **voluntary contributions** from Governments.
- **Advisory Board:** It is constituted by the **Secretary-General** and includes **UN Member States** who have made the **largest cumulative financial contributions** to the Fund over the previous **three years**, International civil society organizations, Individuals serving in a personal capacity.

**Q.49) Which of the following pairs is/are correctly matched?**

Mission	Purpose
1. Juice	To explore Jupiter's icy Moon
2. Aquarius	To study Atmosphere of Mars
3. VERITAS	To study the surface and interior of Venus
4. DAVINCI+	To study Saturn's giant moon, Titan

**Select the correct answer using the code given below.**

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 1,3 and 4 only
- (d) 1,2,3 and 4

**Ans:- Option A**

- **Juice Mission:** is an **interplanetary spacecraft in development by the European Space Agency (ESA)**. The mission will study **three of Jupiter's Galilean moons: Ganymede, Callisto, and Europa**, all of which are thought to have significant bodies of liquid water beneath their surfaces, making them potentially habitable environments.
- **Aquarius Mission:** The Aquarius mission provided **NASA's first global observations of sea surface salinity**, giving climatologists a better understanding of the ocean's role in Earth's water

cycle and weather patterns, as well as global climate variability.

- **VERITAS Mission:** It studies the surface and interior of Venus with a powerful new generation of scientific tools. The mission was selected for flight in **2021 as part of NASA's Discovery program**.
- **Dragonfly Mission:** NASA's Dragonfly Will Fly Around Titan (Saturn's Moon) Looking for Origins, Signs of Life.
- **DAVINCI Mission:** The mission will fly by **Venus and explore its harsh atmosphere in 2029**. It will be the first mission to study Venus by means of both flybys and descent

**Q.50) Suhelwa Wildlife Sanctuary, which was recently seen in the news, is located in which state?**

- (a) Karnataka
- (b) Haryana
- (c) Uttar Pradesh
- (d) Odisha

**Ans:- Option C**

It is **located in the state of Uttar Pradesh**. It is one of the **important places in the Bhabar-Tarai Eco-System area** which is rich in biodiversity.

**Q.51) With reference to the Institute of Company Secretaries of India, consider the following statements:**

1. It was established under the Companies Act, of 2013.
2. It is the only recognized professional body in India to develop and regulate the profession of Company Secretaries in India.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- It is the **only recognized professional body in India** to develop and regulate the profession of Company Secretaries in India.
- It is a **premier national professional body set up under an act of Parliament, the Company Secretaries Act, 1980**.
- **Nodal Ministry:** Ministry of Corporate Affairs, Government of India.

- The Institute provides top-quality education to the students of Company Secretaries (CS) Course and best quality set standards to CS Members.

**Q.52) Which of the following dialects are correctly matched with their countries:**

1. Ghoti: spoken in Tibet
2. Khmer: spoken in Kyrgyzstan
3. Bahasa: spoken in Indonesia

**Select the correct answer using the code given below.**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 2 only

**Ans:- Option C**

- Recently, the **Indian Council for Cultural Relations (ICCR)** has envisaged a special project called **'The Language Friendship Bridge'**.
- Under this project, **India is planning to create a pool of experts in languages spoken in countries like Myanmar, Sri Lanka, Uzbekistan and Indonesia** to facilitate better people-to-people exchanges.
- It **plans to train five to 10 people** in the official languages of each of these countries.
- As of now, the ICCR has zeroed in on 10 languages: Kazakh, Uzbek, Bhutanese, **Ghoti (spoken in Tibet), Burmese, Khmer (spoken in Cambodia), Thai, Sinhalese and Bahasa (spoken in both Indonesia and Malaysia).**

**Q.53) Consider the following statements regarding the Cost Inflation Index (CII):**

1. CII number helps an individual to ascertain the inflation-adjusted current price of an asset.
2. It helps in calculating capital gains from a transfer or sale of capital assets after taking inflation into account.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

- CII number is **used to adjust the purchase price of assets on the basis of inflation.**

- This helps in calculating capital gains from a transfer or sale of capital assets after taking inflation into account.
- It **helps taxpayers offset the impact of inflation** as the difference between the purchase and sale price could be substantial due to rising prices.
- The application of the Cost Inflation Index for capital gain adjusts the purchase price of assets based on their sale price, resulting in smaller earnings and a lower tax amount.
- Till **FY 2022-23** (ended on March 31, 2023), the CII number was **used to calculate the long-term capital gains from non-equity mutual fund schemes.**
- But from **FY 2023-24**, the indexation benefit in long-term capital gains from non-equity mutual fund schemes has been removed.

**Q.54) Consider the following statements with reference to the Large Hadron Collider (LHC):**

1. In its operational state, it fires two beams of electrons almost at the speed of light in opposite directions
2. It was built by the European Organization for Nuclear Research (CERN) between 1998 and 2008.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- In its operational state, it **fires two beams of protons almost at the speed of light in opposite directions inside a ring of superconducting electromagnets.**
- LHC has not been able to find — 'new physics', the collective name for particles or processes that can explain the nature of dark matter or why gravity is such a weak force.

**Q.55) Which of the following are correctly matched**

- (a) Yellow Sea separates China and Korean Peninsula.
- (b) Denmark Strait is between Greenland (west) and Denmark (east).
- (c) Skagerrak Strait connects the Gulf of Bothnia to the Baltic Sea.
- (d) Formosa Strait separates Taiwan and Phillipines

**Ans:- Option A**



- The Denmark Strait or Greenland Strait is an oceanic strait between Greenland to its northwest and Iceland to its southeast.
- Skagerrak Strait connects the North Sea and the Kattegat sea areas of the Baltic Sea. This strait runs between Norway and Sweden of Scandinavian Peninsula and Jutland Peninsula of Denmark
- Formosa Strait separates Taiwan and China.

**Q.56) With reference to the Miniratna Category-I status, consider the following statements:**

1. It is given to those Central Public Sector enterprises whose pre-tax profit is Rs.30 crores or more in at least one of the last three years.
2. Miniratna CPSEs have access to budgetary support or Government guarantees.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- **Miniratna Category-I status:** The CPSEs which have made a profit in the last three years continuously, with a pre-tax profit is Rs.30 crores or more in at least one of the three years and have a positive net worth are eligible to be considered for grant of Miniratna-I status.
- **Miniratna Category-II status:** The CPSEs which have made a profit for the last three years continuously and have a positive net worth are eligible to be considered for grant of Miniratna-II status.
- Miniratna CPSEs should have not defaulted in the repayment of loans/interest payments on any loans due to the Government.
- Miniratna CPSEs shall not depend upon **budgetary support or Government guarantees.**

**Q.57) Eurybates, Polymele, Leucus and Orion are related to what?**

- (a) Data collecting methods
- (b) Trojan asteroids
- (c) Malware attacks
- (d) Rare Earth elements

**Ans:- Option B**

- Recently, NASA's Lucy spacecraft first time caught a glimpse of the Jupiter and Trojan asteroids.

- NASA's Lucy spacecraft has recently captured the images of Eurybates, Polymele, Leucus and Orion Trojan asteroids.

**Q.58) Consider the following pairs:**

Country	Important reason for being in the news recently
1. Sudan	Civil War has erupted again
2. Tunisia	Political protest against President
3. Democratic Republic of Congo	Houthi rebellion
4. Burkina Faso	Drought and famines

**How may pairs given above are correctly matched?**

- (a) Only one pair
- (b) Only two pairs
- (c) Only three pairs
- (d) All four pairs

**Ans:- Option B**

- **Sudan** --- Civil War has erupted again in capital of Khartoum.
- **Tunisia** --- Political protest against President
- **Democratic Republic of Congo** --- Rebellion by M23 group
- **Burkina Faso** --- Faced Jihadist insurgency

**Q.59) With reference to the Barnawapara wildlife sanctuary, consider the following statements:**

1. It is located in the state of Chhattisgarh.
2. Chhattisgarh forest department has carried out a successful translocation of four sub-adult wild buffaloes from Jharkhand to Barnawapara wildlife sanctuary.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- Recently, the Chhattisgarh forest department has carried out a **successful translocation of four sub-adult wild buffaloes from Assam to Barnawapara wildlife sanctuary.**
- It is located in the **district of Raipur in Chhattisgarh.**

- The **rivers Balmedhi, Jonk and Mahanadi** are the lifeline river which runs along the sanctuary.
- River Balamdehi forms the western boundary and Jonk River forms the northeastern boundary of the Sanctuary.

**Q.60) Consider the following statements regarding Epstein-Barr virus (EBV):**

1. It spreads through bodily fluids, especially saliva (spit).
2. It is preventable through vaccination

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It is **one of the most common human viruses** in the world.
- It spreads through bodily fluids, especially saliva (spit).
- **Symptoms:** Fatigue, fever, inflamed throat, swollen lymph nodes in the neck, enlarged spleen, swollen liver, rash.
- EBV can cause infectious mononucleosis, also called mono, and other illnesses.
- There is **no vaccine to protect against EBV infection.**

**Q.61) Consider the following statements regarding Mangrove Pitta:**

1. First-ever census finds 179 mangrove pitta birds in two coastal Chhattisgarh districts
2. It is classified as Near Threatened under the IUCN Red List.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- First-ever census finds **179 mangrove pitta birds** in two coastal Odisha districts
- It is a **species of passerine bird in the Pittidae family native to Southeast Asia and South Asia.** They are colourful birds which have black head with

brown crown, white throat, greenish upper parts, buff under-parts and reddish vent area

**Q.62) Which one of the following countries share a boundary with Sea of Japan?**

- (a) Russia, Japan, Korea
- (b) Japan, Vietnam, Korea
- (c) North Korea, Taiwan, Japan
- (d) China, Japan, Russia

**Ans:- Option A**

Sea of Japan (East Sea) is a **marginal sea of the western Pacific Ocean.**

- The sea itself lies in a deep basin, separated from the **East China Sea to the south by the Tsushima and Korea straits** and from the Sea of Okhotsk to the north by the La Perouse (or Sōya) and Tatar straits.
- To the east it is also connected with the Inland Sea of Japan by the Kanmon Strait and to the Pacific by the Tsugaru Strait.
- There are no large islands in the Sea of Japan.



**Q.63) Consider the following statements regarding Hemophilia:**

1. It is a genetic condition that affects the body's ability to form blood clots.
2. Males are much more likely to have hemophilia than females.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It is a **genetic disorder** that affects the body's ability to form blood clots.

- People with hemophilia have deficiencies or abnormalities in certain **clotting factors, which are proteins that help the blood clot.**
- Males are much more likely to have hemophilia than are females.
- **Treatment:** It typically involves replacement therapy, which involves infusing clotting factor concentrates into the bloodstream to help the blood clot.

**Q.64) Which of the following Bird species has been categorized as critically endangered in India?**

- 1) Egyptian vulture
- 2) Forest Owlet
- 3) Sociable Lapwing
- 4) White Bellied Heron

Select the correct answer from the codes given below:

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

**Ans:- Option B**

**Ans:- Option B**

India and Sri Lanka have signed a **Memorandum of Understanding** for setting up a **state of the art Maritime Rescue Coordination Centre (MRCC) in Colombo**

- MRCCs are **part of an international network under the UN's International Maritime Organisation** to monitor the sea lanes with the objective of swift response to emergencies, such as vessels in distress, rescue and evacuation of people, and prevention of and containing environmental disasters such as oil spills.
- Each country is responsible for its own Search and Rescue Region. The work of MRCCs is coordinated by the Navy or Coast Guard in each country. **In India, the Coast Guard is the coordinating agency. In Sri Lanka, it is the Navy.**

**Q.66) Consider the following statements regarding the Forest (Conservation) Act 1980:**

1. It prohibits the felling of forests for any "non-forestry" use without prior clearance by the central government.
2. The State Governments have the power to make rules for carrying out the provisions of this Act.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It prohibits the felling of forests for any "non-forestry" use without prior clearance by the central government.
- The Central Government has the power to make rules for carrying out the provisions of this Act. Any person aggrieved may file an appeal to the National Green Tribunal.
- Offences made by Authorities or Government Departments are punishable.
- The Central Government may constitute an advisory committee to advise the government with regard to forest conservation.

**Q.67) With reference to the Bombay Natural History Society, consider the following statements:**

1. It is a statutory organization dealing with study of nature



**Q.65) Consider the following statements about Maritime Rescue Co-ordination Centre (MRCC):**

1. It is part of an international network under the UN's International Maritime Organisation to monitor the sea lanes
2. India has signed a Memorandum of Understanding to set up Dhaka's maritime rescue coordination center.

Select the correct answer using the codes given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

2. Its functions under Ministry of Environment, Forests and Climate change

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D**

Bombay Natural History Society is a pan-India wildlife research organization, that has been promoting the cause of nature conservation since 1883.

- It is the **partner of BirdLife International in India**. BirdLife International is a global partnership of conservation organisations that strives to conserve birds, their habitats and global biodiversity.
- It has been **designated as a Scientific and Industrial Research Organization (SIRO)** by the Department of Science & Technology, Government of India.

**Q.68) The Information Technology Agreement (ITA) is related to which organisation**

- (a) WTO
- (b) BRICS
- (c) G20
- (d) OECD

**Ans:- Option A**

India is a **signatory to the Information Technology Agreement (ITA) (now also known as ITA-1), a plurilateral agreement of WTO**. As on date, there are altogether **82 member signatories**, including 27 EU member countries, accounting for about 97 percent of the world trade in Information Technology (IT) products. **India joined the ITA on 25th March 1997.**

- The ITA **covers a large number of high technology products**, including computers, telecommunication equipment, semiconductors, semiconductor manufacturing and testing equipment, software, scientific instruments, as well as most of the parts and accessories of these products.
- The participants are **committed to completely eliminating tariffs on IT products covered by the Agreement.**

**Q.69) Consider the following statements with respect to Armed Force Special Power Act (AFSPA):**

1. The Act in its original form was promulgated by the British in response to the Quit India movement in 1942.

2. The act provides for special powers for the armed forces that can be imposed only by the Governor of that State.

**Select the correct answer using the codes given below:**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

AFSPA provides **special powers for the armed forces that can be imposed by the Centre or the Governor of a state**, on the state or parts of it, after it is declared "disturbed" under Section 3 of the Act.

**Q.70) With reference to the Wheat Blast, consider the following statements:**

- 1. It is a fungal disease which affects the tropical and subtropical wheat production regions.
- 2. It spreads through infected seeds only.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It is a fungal disease in tropical and subtropical wheat production regions caused by *Magnaporthe oryzae*.
- The fungus infects wild and cultivated grasses, most notably rice and wheat.
- It spreads through infected seeds, and crop residues as well as by spores that can travel long distances in the air.
- The crop fungi are known to mutate and adapt to new conditions.

**Q.71) Consider the following statements regarding National Quantum Mission (NQM):**

- 1. Four thematic hubs, or T-Hubs, with a focus on quantum computing, communication, sensing and metrology, and materials and devices will be established
- 2. It will have defined milestones to be achieved over the course of 5 years.



Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- The mission will have defined milestones that are expected to be achieved over the course of eight years (2023-24 to 2030-31).
- **India is the sixth country to have a dedicated quantum mission** after the US, Austria, Finland, France and China.

**Objectives:**

- Create intermediate-scale quantum computers with 50-1000 qubits in the next eight years.
- Establish satellite-based secure quantum communications between ground stations within India, as well as with other countries, covering a range of 2000 km.
- It will look to **provide inter-city quantum key distribution** over 2000 km.

**Q.72) Consider the following statements regarding National Technical Research Organisation (NTRO):**

1. It is a technical intelligence Agency under the National Security Advisor in the Prime Minister's Office, India.
2. It is headed by the National Security Advisor

Which of the statements given above is/are not correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- It is a **technical intelligence Agency under the National Security Advisor** in the Prime Minister's Office, India.
- It was **formed in 2004** to strengthen the country's national security apparatus.
- It is **under the direct control of the Prime Minister's Office** and operates as an autonomous organization.
- **Primary Objective:** Gather technical intelligence, which involves intercepting and analyzing communications signals, imagery intelligence, and cyber intelligence.

**NTRO is headed by a Chairman who reports directly to the Prime Minister of India**

**Q.73) Exobiology Extant Life Surveyor (EELS), recently seen in the news is related to what?**

- (a) Finding microorganisms in deep mines
- (b) Discovery of water on Mars
- (c) Discovery of presence of life in deep oceans
- (d) Examine the surface of Saturn's moon for life

**Ans:- Option D**

- Developed by NASA, it is a **mobile instrument platform** conceived to **explore internal terrain structures, assess habitability and ultimately search for evidence of life.**
- It is a **snake-like robot** that can move through rough terrain.
- Its **purpose is to examine the surface of Saturn's moon and determine whether life is present.**

**Q.74) Which of the following best describes the YZ Ceti b, which was recently seen in the news?**

- (a) It is an invasive plant
- (b) It is an exoplanet
- (c) Search for meteorites containing precious metals
- (d) Regions inside the Earth where shale gas is available

**Ans:- Option B**

- It is a rocky earth-sized exoplanet rotating around a small red dwarf star.
- It is **barely 12 light-years from Earth.**
- The astronomers determined that the planet takes just a couple of Earth days to circle its star.
- Exoplanets are the **planetary body which is outside the solar system** and usually orbit a star other than the Sun.
- Most exoplanets are **found through indirect methods:** measuring the dimming of a star that happens to have a planet pass in front of it, called the transit method.

**Q.75) Uhl-III hydro power project, recently seen in the news, lies in which state?**

- (a) Himachal Pradesh
- (b) Sikkim
- (c) Uttarakhand
- (d) Punjab

**Ans:- Option A**

- **Location:** It is located at the **Rana Neri Khad River** in the Mandi district of Himachal Pradesh.
- The Project comprises the diversion of tail water of Uhl Stage-II (Bassi), Neri Khad & Rana Khad.

**Q.76) Consider the following statements regarding Forensic Auditing:**

1. It is an analysis and review of the financial records of a company or person to extract facts which can be used in a court of law.
2. Forensic audits only involve situations of financial fraud

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- Forensic auditing is “an **examination of financial records to find any illegal financial activity,**” while an internal audit is defined as “an examination of a company's accounts or activities by its own accountants or managers.”
- In the process of a forensic audit, **the auditor may be called to serve as an expert witness** during trial proceedings. Forensic audits could also involve situations that do not include **financial fraud, such as disputes related to bankruptcy filings, business closures, and divorces**

**Q.77) Consider the following statements regarding Economic Advisory Council to the Prime Minister (EAC-PM):**

1. It is a non-constitutional, non-permanent and independent body
2. For administrative, logistic, planning and budgeting purposes, the NITI Aayog serves as the Nodal Agency for the EAC-PM.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

- It is a **non-constitutional, non-permanent and independent body** constituted to give **advice on**

**economic and related issues to the Government of India, specifically to the Prime Minister.**

- It was **set up for the first time in September 2017 with a term of two years.**
- Analyzes any issue, economic or otherwise, either suo-motu or on reference from the Prime Minister or anyone else.
- **EAC-PM is headed by a Chairperson** and consists of eminent economists as members.
- There is no fixed definition on the exact number of members and staff of the PMEAC.

**Q.78) Regarding ‘Markets in Crypto-Assets’ (MiCA) regulations, consider the following statements:**

1. It has been brought by the USA.
2. It includes non-fungible tokens (NFT) but excludes new paradigms such as the DeFi (Decentralized Finance) industry
3. It aims to hold crypto firms accountable for their environmental and climate footprint.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) 3 only
- (d) 2 and 3 only

**Ans:- Option C**

- Adopted in **2023**, by the **European Parliament**, MiCA is the **first and only legislation of its kind in the world** and leads the way for other jurisdictions.
- The Regulation **draws a distinction between ‘cryptocurrencies’ on one hand and ‘tokens’ on the other.** MiCa excludes new paradigms such as the DeFi (Decentralized Finance) industry and non-fungible tokens (NFT).
  - **Decentralized finance (DeFi)** is an **emerging model** for organizing and **enabling cryptocurrency-based transactions, exchanges and financial services.** DeFi's core premise is that there is no centralized authority to dictate or control operations.

**Q.79) His spiritual discipline was based on the principles of Arivu (true knowledge), Achara (right conduct), and Anubhava (divine experience) and it brought a social, religious and economic revolution in the 12th century. He is celebrated and held in high regard, especially by the Lingayat community, as he was the founder of Lingayatism. The above statements are with respect to which saint?**

- (a) Lord Basavana

- (b) Chaitanya Mahaprabhu
- (c) Shankardeva
- (d) Akka Mahadevi

**Ans:- Option A**

- His spiritual discipline was based on the principles of **Arivu** (true knowledge), **Achara** (right conduct), and **Anubhava** (divine experience) and it brought a social, religious and economic revolution in the 12th century.
- He **gave two very important socio-economic principles**.
- **Kayaka (Divine work):** According to this, every individual in society should take up the job of his choice and perform it with all sincerity.
- **Dasoha (Equal distribution):** There must be an equal income for equal work. The worker (Kayakajeevi) may lead his day-to-day life by his hard-earned income but he should also utilize the surplus money for society and the poor.

**Q.80) Which of the following statements with respect to Zafar Mahal are correct:**

1. This is the last structure built by the Mughals
2. It was built in memory of the Hazrat Khwaja Qutubuddin Bakhtiar Kaki
3. The famous festival or the annual procession known as Phulon ki Sair also starts from here

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) All
- (d) 1 and 3 only

**Ans:- Option C**

- This is the **last structure built by the Mughals** and served as a summer palace for the Mughal family.
- **Location:** It is located in **Mehrauli village**, which is in the Southern part of Delhi.

**Q.81) Identify the correct statements with respect to National Technology Centre for Ports, Waterways and Coasts (NTCWPC):**

1. It is being set up under the Shipping Ministry's flagship Sagarmala Programme.
2. It is located in Gujarat

**Which of the statements given above is/are correct?**

- (a) 1 only

- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It is being set up **under the Shipping Ministry's flagship Sagarmala Programme**.
- **Location:** It has been established in **IIT – Discovery Campus at Chennai in Tamil Nadu** at the cost of ₹77 crore.
- It **works as the technology arm of the Ministry of Shipping** and provides the needful technological support to ports, IWA and other institutions.
- **Mandate:** To develop cutting-edge technologies and application products to provide solutions to various challenges faced by the Ports and Shipping Sector.

**Q.82) The term Lyrid is associated with which of the following**

- (a) Meteor shower
- (b) Invasive plant species
- (c) Medicinal plant
- (d) None of the above

**Ans:- Option A**

- The Lyrids meteor shower, **one of the oldest known meteor showers peaks in late April**.
- According to NASA the **first recorded sighting of a Lyrid meteor shower goes back to 687 BC by the Chinese**.
- It is **best viewed in the Northern Hemisphere** during the dark hours.
- Meteor showers are usually named after a star or constellation that is close to where the meteors appear to originate in the sky.
- The **Lyrid shower** gets its name from the **constellation Lyra**.

**Q.83) With reference to the 100 food streets in 100 Districts initiative, consider the following statements:**

1. It is an initiative of the Food Safety and Standards Authority of India.
2. Under this initiative financial assistance of Rs.10 crore per food street/district will be provided.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2

(d) Neither 1 nor 2

**Ans:- Option D**

- Recently, the **Union Ministry of Health and Family Welfare in collaboration with the Ministry of Housing & Urban Affairs** has requested states/UTs to develop 100 food streets in 100 districts across the country.
- This **project aims to encourage safe and healthy food practices among food businesses and community members**, thus, reducing foodborne illnesses and improving overall health outcomes.
- **Implementation:** It will be implemented through National Health Mission (NHM) in convergence with the Ministry of Housing and Urban Affairs & with technical support from the Food Safety and Standards Authority of India.
- The financial assistance for the initiative to States/UTs in the form of Rs.1 crore per food street/district will be given to fill up critical gaps.
- This **assistance will be provided under National Health Mission (NHM) in the ratio of 60:40 or 90:10** with the condition that standard branding of these food streets will be done as per FSSAI guidelines.

**Q.84) What are the advantages of using quantum computers?**

1. They can break existing encryption algorithms.
2. They allow for the simulation of complex systems, such as chemical reactions and materials science.
3. They enable the development of new algorithms for machine learning and optimization problems.
4. They are less susceptible to errors due to their use of qubits instead of classical bits.

**Select the correct answer using the code given below:**

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 1, 3 and 4 only
- (d) 1, 2, 3 and 4

**Ans:- Option B**

They can break existing **encryption algorithms**: This is an advantage for some applications, such as **code-breaking and cryptography**, but it is also a potential disadvantage for information security.

**Q.85) Which of the following comes under the ambit of audit powers of Comptroller and Auditor General of India?**

1. All expenditure from the Consolidated Fund of India
2. Prime Minister's CARES Fund
3. Prime Minister's National Relief Fund
4. Contingency fund of India
5. Public Account of India

**Select the correct answer using the codes given below:**

- (a) 1, 4 and 5 only
- (b) 2, 3 and 4 only
- (c) 1, 3, 4 and 5 only
- (d) 1,2,3,4 and 5 only

**Ans:- Option A**

The PM National Relief Fund is **audited by an independent auditor outside the Government**. At present, Sarc & Associates, Chartered Accountants are the auditors.

With respect to PM CARES Fund, Supreme Court noted that **PM CARES fund is a public charitable trust which consists of voluntary contributions from individuals and organizations**, rather than containing any public funds. **Therefore, it does not need to be audited by the CAG** and can instead be audited by a private accountant.

**Q.86) With reference to the Blue hole, consider the following statements:**

1. It is a type of underwater sinkhole found in low-lying coastal karst regions.
2. These are formed when limestone or other carbonate rock is dissolved by slightly acidic groundwater over a long period.

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

**Taam Ja Blue hole:** It is around 900 feet deep and scientists have dubbed it the **second-deepest blue hole found on the planet**. It was found in the **central portion of Chetumal Bay**, where submerged coastal karstic sinkholes locally named 'pozas' have been reported

**Q.87) Identify the correct statements with respect to Manamadurai pottery**

1. It is from the state of Kerala



2. The sand, collected from different places in the district, is used for making pottery and dried for two days

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

- Manamadurai in the **Sivagangai district of Tamil Nadu** is known for **pottery making**.
- The Vaigai River enriches the clay used for the Manamadurai pottery.

**Q.88) With reference to Zero Shadow Day, consider the following statements:**

1. It occurs when the sun's rays are hitting a particular point on the earth exactly perpendicular to the surface.
2. There is one zero day annually in different parts of the world

**Which of the statements given above is/are correct?**

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

- It is a **sub-solar point** where the sun is directly overhead at a particular latitude.
- When the sun is at the zenith (the highest point in the sky) its rays will be hitting a particular point exactly perpendicular to the surface.
- This will make the shadow of a person exactly under him, making it look like there are no shadows.
- There are **two zero shadow days every year in May and July/August**, observed in places that lie between the tropic of Cancer and the tropic of Capricorn.
- One falls during the **Uttarayan** (when the Sun moves northwards), and the other is during **Dakshinayan** (when the Sun moves southwards).
- It **lasts for a small part of a second**, but the **effect** can be seen for a **minute to a minute-and-a-half**.

**Q.89) SUPREME initiative, recently seen in news is related to:**

- (a) Improving infrastructure in high schools

- (b) Developing supercomputers on PPP model
- (c) Financial support for maintenance of analytical instrumentation facilities (AIFs)
- (d) Developing cultural connect with neighbouring countries to promote tourism

**Ans:- Option C**

- Recently, the Union Minister of Science and Technology **launched the SUPREME initiative** to provide financial support for the upgradation and maintenance of analytical instrumentation facilities (AIFs).
- The Support for Up-gradation Preventive Repair and Maintenance of Equipment (SUPREME), is a **first-of-its-kind programme by the government**.
- **Eligibility:** Different facilities created under the projects/ Analytical instrumentation facilities (AIFs) created earlier from the support of DST, only will be considered for the funding support under this Scheme.
- Such facilities at institutions recognised by the **University Grants Commission (UGC)** are eligible to apply for grants under this initiative.
- **Duration:** The duration of support will be for a period not exceeding 3 years.
- **Funding Pattern:** The funding pattern in the scheme would be **75:25 for all private and govt owned institutions** (except for state-funded institutions for which **100% funding would be considered**).

**Q.90) Which one of the following is the causative agent of the 'White Spot Disease', recently seen in the news?**

- (a) Virus
- (b) Bacteria
- (c) Fungus
- (d) None of the above.

**Ans:- Option A**

- It is a **highly contagious viral infection** that affects crustaceans such as prawns, yabbies and crabs.
- When found in **high-intensity production areas**, such as prawn farms, white spot disease results in the rapid mortality of prawns.
- It has the potential to cause a significant financial impact on the farmed prawn industry.
- The virus is known to occur in **fresh, brackish and marine water**.
- All life stages are potentially susceptible, from eggs to broodstock.
- The virus does not pose a risk to food safety or human health.

## Practice MCQs on Conventional Subjects- April 2023

**Q.1) With reference to the Plastic Waste Management (Amendment) Rules, 2021, consider the following statements:**

1. They prohibit manufacture, import and sale of single-use plastics including the commodities made of compostable plastics.
2. They provide for increased thickness of plastic carry bags in order to stop littering.
3. They aim to set-up a market mechanism for plastic waste management.

**Which of the above statement(s) is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 3 only

**Ans:- Option C**

**Statement 1 is incorrect:** These rules **prohibit specific single-use plastic items which have “low utility and high littering potential” by 2022.** The ban will not apply to commodities made of compostable plastic.

**Supplementary notes: Plastic Waste Management (Amendment) Rules, 2021-** These rules prohibit specific single-use plastic items which have “low utility and high littering potential” by 2022. The manufacture, import, stocking, distribution, **sale and use of the identified single-use plastic will be prohibited with effect from the 1st July, 2022.**

**Q.2) Defence Research and Development Organisation (DRDO) carried out the maiden test flight of a Flying Wing Technology Demonstrator. In this context, consider the following statements:**

1. The flying wing type of aircraft refers to a tailless fixed-wing aircraft which houses its payload and fuel in its main wings unlike the conventional aircrafts.
2. The Flying Wing Technology Demonstrator aims help in development of unmanned aerial combat vehicles (UCAV).

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

**Both statements are correct**

**Supplementary notes:** Flying Wing Technology Demonstrator. The flying wing type of aircraft refers to a **tailless fixed-wing aircraft** which houses its payload and fuel in its main wings and does not have a defined fuselage-like structure found in conventional aircrafts.

**Q.3) With reference to SARFAESI Act, 2002, consider the following statements:**

1. Unlike Insolvency and Bankruptcy code, the SARFAESI Act, 2002 covers only secured financial creditors.
2. Co-operative banks cannot invoke SARFAESI Act.
3. The act covers all assets, movable or immovable, promised as security to the lender.

**Which of the above statements are correct?**

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option B.**

- The **Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002** was brought in to **guard financial institutions against loan defaulters.** To recover their bad debts, the banks under this law can take control of securities pledged against the loan, manage or sell them to recover dues without court intervention.
- The law is applicable throughout the country and **covers all assets, movable or immovable**, promised as security to the lender.
- Before the **law was enacted in December 2002**, banks and other financial institutions were forced to take a lengthy route to recover their bad debts. The lenders would appeal in civil courts or designated tribunals to get hold of ‘security interests’ to recovery of defaulting loans, which in turn made the recovery slow and added to the growing list of lender’s non-performing assets.

**Q.4) What is ‘XpoSat’, sometimes seen in news?**

- (a) It is a ISRO planned space observatory to study polarisation of cosmic X-rays.
- (b) It is a test vehicle for the first abort demonstration for ISRO’s Gaganyaan mission.

(c) It is ISRO's space docking experiment which will be used for setting up modular space stations.

(d) It is an Indian spacecraft going to the L1 or Lagrangian point between the Sun and Earth

**Ans:- Option A**

The X-ray Polarimeter Satellite is a **ISRO planned space observatory** to study polarisation of cosmic X-rays. It is planned to be **launched in second Quarter of 2023** on a **Small Satellite Launch Vehicle, with mission life of at least five years.**

**Q.5) Regarding the financial Inclusion index 2022, which of the statements is correct?**

(a) The index aims to incorporate the insurance and banking sector exempting postal services.

(b) It is released by the Reserve Bank of India annually.

(c) It measures the state-wise data for collection of financial activities in the country.

(d) The index calculates the indicators as set by World Economic forum (WEF)

**Ans:- Option B**

**Supplementary notes:** Financial Inclusion Index 2022 The Reserve Bank of India had **constructed a composite Financial Inclusion Index (FI-Index)** to capture the extent of financial inclusion across the country, in consultation with the concerned stakeholders including the Government. **The index captures information on various aspects of financial inclusion in a single value ranging between 0 and 100**, where 0 represents complete financial exclusion and 100 indicates full financial inclusion.

**Q.6) Which of the following statements correctly defines the Polymerase Chain Reaction?**

(a) It is a technology for making polythene bags which are bio-degradable in nature.

(b) It is a technology which is responsible for chain reactions during nuclear fusion.

(c) It is a technology for building nylon materials which form the base materials in technical textiles.

(d) It is a technology for exponential amplification of a fragment of the DNA.

**Ans:- Option D**

Polymerase Chain Reaction (PCR) is a **method widely used to rapidly make millions to billions of copies of a specific DNA sample**, allowing the scientists to take a very small sample of DNA and

amplify it to a large enough amount to study in detail

**Q.7) Which of the following statements is/are correct?**

1. The Gravitational Waves are the 'ripples' in space-time caused by some of the most violent and energetic processes in the Universe.

2. These Waves carry with them information about their origins.

**Select the correct answer using the code given below:**

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

**Ans:- Option C**

The Gravitational Waves are the **'ripples' in space-time caused by some of the most violent and energetic processes in the Universe. Albert Einstein predicted the existence of the Gravitational Waves in 1916 in his General Theory of Relativity.** Einstein's mathematics showed that massive accelerating objects (such as neutron stars or black holes orbiting each other) would disrupt space-time in such a way that the 'Waves' of undulating space-time would propagate in all directions away from the source. **These cosmic ripples would travel at the speed of light, carrying with them information about their origins, as well as clues to the nature of gravity itself.**

**Q.8) Which of the following statements are correct?**

1. The Starlink Project aims to deliver high speed broadband internet to inaccessible locations.

2. Neuralink aims to develop ultra-high bandwidth brain-machine interfaces.

3. Elon Musk is the co-founder and leads Starlink, as well as Neuralink.

**Select the correct answer using the code given below:**

(a) 1 and 2 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

**Ans:- Option D**

SpaceX is developing **Starship – a fully reusable transportation system that will carry crew and cargo to the Moon, Mars and beyond – and**

**Starlink**, which will deliver high speed broadband internet to the locations where access has been unreliable, expensive or completely unavailable. By pioneering reusable rockets, SpaceX is **pursuing the long-term goal of making humans a multi-planet species** by creating a self-sustaining city on Mars.

**Q.9) With respect to the Bad Bank set up in India, consider the following statements:**

1. The National Asset Reconstruction Company Limited (NARCL) has been registered as an Asset Reconstruction Company (ARC) with the RBI.
2. Both NARCL and the India Debt Resolution Company Ltd. (IDRCL) are owned by the Government of India.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

The National Asset Reconstruction Company Limited (NARCL): **The Asset Reconstruction Companies are registered with the RBI under the provisions of the SARFAESI Act** (The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002). The NARCL has been incorporated under the Companies Act and has received a certificate of registration from the RBI to commence the business of an Asset Reconstruction Company.

**The India Debt Resolution Company Ltd. (IDRCL):** It has been set up as an **Asset Management Company (AMC) to deal with the NPAs**. It will have a minimum of **51% ownership** of the Private Sector Banks

**Q.10) Which of the following categories of NBFCs is/are covered under the RBI's Scale Based Regulation?**

1. Deposit taking NBFCs
2. Non-Deposit taking NBFCs
3. NBFC- Infrastructure Debt Fund (IDF)
4. Housing Finance Companies (HFCs)

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 1 and 2 only
- (c) 1, 2 and 3 only

(d) 1, 2, 3 and 4

**Ans:- Option D**

The regulatory structure for the NBFCs **shall comprise of 4 layers, based on their size, activity and perceived riskiness**. The NBFCs in the **lowest layer** shall be known as the **NBFC - Base Layer (NBFC-BL)**. The NBFCs in the **middle layer** and the **upper layer** shall be known as the **NBFC - Middle Layer (NBFC-ML)** and the **NBFC - Upper Layer (NBFC-UL)**, respectively. The top layer is ideally expected to be empty and will be known as the **NBFC - Top Layer (NBFC-TL)**.

**Q.11) Consider the following statements about PM-CARES Fund:**

1. It is created as a Public Charitable Trust where individuals and corporates can donate.
2. Donations to this fund has 100% exemption from income tax.
3. Donations made to PM-CARES is counted as part of Corporate Social Responsibility.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

**Ans:- Option D**

Recently, Government of India submitted in Delhi High Court that PM-CARES Fund is not a fund of Government of India. The submission was made in **response to a petition seeking that PM-CARES Fund be declared as 'The State' under Article 12 of the Constitution**. **Members of the Trust:** Prime Minister is the Chairman of the trust and its members include Defence Minister, Home Minister and Finance Minister.

- **Tax Exemption** - Donations to this fund has 100% exemption from income tax under section 80(G).
- **Part of CSR** - Donations made to PM-CARES counted as part of Corporate Social Responsibility.
- **FCRA Exemption** - enables individuals and organizations based in foreign countries to donate to PM-CARES.

**Q.12) Consider the following statements:**

1. The National Policy on Narcotic Drugs and Psychotropic Substances is based on the Directive Principles of State Policy.



2. The Department of Revenue, the Ministry of Finance has the nodal co-ordination role as administrator of the Narcotic Drugs and Psychotropic Substances Act, 1985.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

The **National Policy on Narcotic Drugs and Psychotropic Substances** is based on the **Directive Principles, contained in Article 47**. The responsibility of drug abuse control, which is a central function, is carried out through a number of Ministries, Departments and Organisations. These include the Ministry of Finance, Department of Revenue which has the nodal co-ordination role as administrator of the **Narcotic Drugs and Psychotropic Substances Act, 1985 and the Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988**

**Q.13) Consider the following statements about the C4 Pathway of Photosynthesis:**

- 1. The biology and the organ structure of the C3 and the C4 plants are the same.
- 2. The C4 plants are more water efficient and heat tolerant, as compared to the C3 plants.
- 3. Rice, sugarcane and maize are the examples of the C4 plants.

**Which of the statements given above is/are correct?**

- (a) 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans:- Option A**

There are **two gateways of photosynthesis, viz., C3 and C4**. **C3 Mechanism:** Majority of plants use the C3 mechanism of photosynthesis, in which the first carbon compound produced contains 3 carbon atoms. **However, loss of water vapour through stomata leaves C3 plants at a disadvantage in drought and high-temperature environments.** Photorespiration in this mechanism makes the process less efficient.

**Photorespiration:** During photosynthesis sometimes in place CO<sub>2</sub>, oxygen attached with Rubisco, this makes C3 photosynthesis less efficient). They do not have any bundle sheath cells, e.g., rice.

**Q.14) Last year, large amounts of frothing were seen in river Yamuna during the winter season. Which of the following agents are primarily responsible for the frothing of the rivers?**

- (a) Nitrates in sewage discharged in the rivers.
- (b) Phenols in sewage discharged in the rivers.
- (c) Phosphates in sewage discharged in the rivers.
- (d) Sulphonates in sewage discharged in the rivers.

**Ans:- Option C**

Froth is a **sign of a polluted river**. Experts say that the release of **untreated or poorly treated effluents, including sewage from those parts of the city that are not connected to the sewerage network and industrial waste, could lead to frothing**. Specifically, phosphates in the river form the froth. Surfactants and phosphates from detergents in households and industrial laundry find their way into the river, as all the sewage is not treated. **During winters, the river is in a lean phase and the water flow is less. Pollutants, therefore, are not diluted.** The turbulence at the barrage near Okhla generates foam from the phosphates.

**Q.15) 'Verra' and 'Gold Standard' are the certification standards related to which of the following?**

- (a) Forest conservation
- (b) Plastic waste recycling
- (c) Nature-based solutions
- (d) Carbon credits

**Ans:- Option D**

**Gold Standard and Verra** are two certification schemes to ensure the integrity of carbon credits. Carbon credits represent the reduction or removal of one tonne of CO<sub>2</sub> equivalent.

**There are two kinds of carbon markets:**

- 1. **Compliance Markets:** These markets function due to the legislations or laws of the countries or regions, e.g., the **European Union's Emission Trading System and India's Perform Achieve and Transform (PAT)**. Only certain sectors participate in these schemes.
- 2. **Voluntary Carbon Markets:** The voluntary carbon market enables the private investors, governments,

non-governmental organizations and businesses to voluntarily purchase carbon offsets to offset their emissions.

**Q.16) With reference to the 'Global carbon project' which of the following statements is incorrect?**

- (a) It was formed in 2001 to establish a common, mutually agreed knowledge base about carbon emission.
- (b) The project releases global greenhouse gas budget of all greenhouse gases.
- (c) It is a Global Research Project of Future Earth.
- (d) It established the Global Carbon Atlas.

**Ans:- Option B**

**Option a is correct.** Global carbon project is formed to work with the international science community to establish a common and mutually agreed knowledge base to support policy debate and action to slow down and ultimately stop the increase of greenhouse gases in the atmosphere. It was **established in 2001** by a shared partnership between **the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP), the World Climate Research Programme (WCRP).**

**Option b is incorrect.** Global carbon project include global budgets for **three dominant greenhouse gases — CO<sub>2</sub>, methane, and nitrous oxide** and not all green house gases.

**Q.17) Consider the following pairs of biodiversity sites and their locations:**

Biodiversity	Site Location
1. Yaya Tso	Lake Ladakh
2. Kole Wetlands	Himachal Pradesh
3. Tungareshwar Wildlife Sanctuary	Andhra Pradesh

**How many pairs mentioned above is/ are correctly matched?**

- (a) Only one pair
- (b) Only two pairs
- (c) All three pairs
- (d) None of the pairs

**Ans:- Option A**

**Pair 1 is correct:** The Yaya Tso Lake is in the Union Territory of Ladakh. It has recently **been proposed as the Ladakh's first Biodiversity Heritage Site.** It is a high altitude lake. It is also **known as birds' paradise.**

**Pair 2 is incorrect:** Kole wetlands are spread over Thrissur and Malappuram districts of Kerala, extending from the northern bank of Chalakudy river in the south to the southern bank of the Bharathapuzha in the north. **Due to its high biodiversity, the area has been recognized as an Important Bird Area by the Birdlife International.**

**Pair 3 is incorrect:** Tungareshwar Wildlife Sanctuary is **located on the periphery of Mumbai, Maharashtra.** Recently, the Supreme Court exempted declaring **Eco-Sensitive Zone (ESZ) around this protected area.** This sanctuary forms a corridor between Sanjay Gandhi National Park and Tansa Wildlife Sanctuary. **It has three different types of forests-** dry deciduous, moist deciduous and semi-evergreen.

**Q.18) India has announced its first Sovereign Green Bonds Framework. In this context the proceeds of the bond can be used for which of the following projects:**

- 1. Nuclear power generation projects.
- 2. Direct waste incineration plants.
- 3. Solar Energy Projects.
- 4. Water efficient irrigation system projects.
- 5. Hydropower Plants larger than 25 MW.

**Which of the options given above are correct?**

- (a) 3 and 4 only
- (b) 1, 3 and 4 only
- (c) 1, 3 and 5 only
- (d) 1, 2, 4 and 5 only

**Ans:- Option A**

The Government of India has announced the **Nationally Determined Contributions (NDCs) under the Paris Agreement in 2015.** NDCs, inter alia, includes reducing emission intensity of GDP by 33-35% by 2030 as compared to the 2005 levels. The targets have further been elevated to reduction of emission intensity by **45% during 26th Conference of Parties (COP 26) of United Nations Framework Agreement on Climate Change (UNFCCC).** In this direction, issuance of Sovereign Green Bonds aims to mobilize finance for energy efficient green projects. Payments of principal and interest on the issuances under this Framework are not conditional on the performance of the eligible projects. Investors in bonds issued under this Framework do not bear any project related risks.

**Options 1, 2 and 5 are incorrect:** The nuclear power generation projects are excluded under this

framework and hence, proceeds of the bonds cannot be used to finance these projects. **The nuclear energy is a renewable energy**, but setting and establishing nuclear power plants is very energy intensive.

**Other excluded items include:**

- 1) Projects where the core-energy source is fossil fuel based.
- 2) Direct waste incineration
- 3) Alcohol, weapons, tobacco, gaming or palm oil industries.
- 4) Renewable energy projects generating energy from biomass using feedstock originating from protected areas
- 5) Landfill projects
- 6) Hydropower Plants larger than 25 MW

**Q.19) United Nations Conference to Support the Implementation of Sustainable Development Goal 14 (SDG-14) was held in Portugal. In this context, consider the following statements regarding the 'Lisbon Declaration':**

1. It is a commitment to follow science-based and innovative actions for the conservation of lands from further degradation.
2. All the United Nations members have unanimously adopted this declaration.

**Which of the statements given above is/ are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

United Nations Ocean Conference, 2022 was held to **ensure global cooperation towards protection and sustenance of the Ocean ecosystem of the world**. It was held to support the implementation of Sustainable Development Goal 14 (SDG 14), and has been recently held in Lisbon, Portugal.

**Statement 1 is incorrect:** The Lisbon conservation deals with ocean conservation and not the land conservation. It aims to follow science-based and innovative actions on an urgent basis for the conservation of oceans. It also calls to urgently improve health, sustainable use and resilience of the oceans. Participants also agreed to work on preventing, reducing and controlling marine pollution like-nutrient pollution, untreated waste water, solid waste discharges, Hazardous substances, emissions from maritime sectors

(including shipping) and anthropogenic underwater noise.

**Statement 2 is correct:** The Lisbon Declaration has been unanimously adopted by all the 198 members of the United Nations. The move is significant for building sustainable ocean-based economies. **It is an example of collective efforts in the direction of sustainable ocean management.**

**Q.20) Which of the following statements best describes the difference between the chit funds and the mutual funds?**

- (a) Compared to Mutual Funds, Chit funds carry less market risks.
- (b) RBI regulates mutual funds whereas SEBI regulates Chit funds in India.
- (c) Unlike Mutual funds, Chit funds do not provide for assured income for investors.
- (d) Unlike mutual fund, chit fund is a kind of debt instrument thus does not provide any kind of dividend to their subscribers.

**Ans:- Option A**

Chit fund/kitty/chitty is a sort of **community funding** where a **group of people come together to contribute a predefined amount for a certain period**. Each person gets a chance to claim the pool amount either by lot mechanism or auction. **A mutual fund is a company that pools money from many investors and invests the money in securities such as stocks, bonds, and short-term debt**. The combined holdings of the mutual fund are known as its portfolio. Investors buy shares in mutual funds. Each share represents an investor's part ownership in the fund and the income it generates.

**Option a is correct:** Mutual funds are invested in the market, which is highly unpredictable. When the market goes down the value of your funds go down too. So highly susceptible to market risk. Chit funds, whereas are not exposed to the market (amount is generally not invested in market) hence free of any market risk.

**Q.21) Which of the following does not indulge into photosynthesis?**

- (a) Cyanobacteria
- (b) Dinoflagellates
- (c) Foraminiferans
- (d) Diatoms

**Ans:- Option C**

**Q.22) Consider the following statements about 'sea grasses':**

1. They are only flowering plants which grow in marine environments.
2. They have evolved from the terrestrial plants.
3. They do not indulge into photosynthesis.

**Which of the statements given above are correct?**

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option A**

Seagrasses are **the only flowering plants which grow in marine environments**. Seagrasses have evolved from the terrestrial plants, which recolonised the ocean 70 to 100 million years ago. **The name seagrass stems from the many species with long and narrow leaves, which grow by rhizome extension and often spread across large "meadows" resembling grassland**; many species superficially resemble the terrestrial grasses of the family Poaceae. **Like all autotrophic plants, seagrasses photosynthesize in the submerged photic zone**, and most occur in shallow and sheltered coastal waters anchored in sand or mud bottoms.

**Q.23) Consider the following statements about the Dam Safety Act, 2021:**

1. If a specified dam is owned by one state, which is located in another state, the State Dam Safety Organisation of the state, where the dam is located, will have jurisdiction over it.
2. Only dams which have more than 15 m of height are regulated as 'specified dams' under the Act.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D**

**The Dam Safety Act, 2021:** This is an Act enacted by the Parliament to **provide for the surveillance, inspection, operation and maintenance of the specified dams for prevention of dam failure** related disasters and to provide for institutional mechanism to ensure their safe functioning.

**Definition of Specified Dams:** A dam constructed before or after the commencement of this Act, which is:

- (i) **Above 15m in height, measured from the lowest portion of the general foundation area to the top of the dam.** Where a specified dam is owned by a Central Public Sector Undertaking or where a specified dam is extended over two or more states, or where the specified dam in one state is owned by another state, then the National Dam Safety Authority shall have jurisdiction over those specified dams.

**Q.24) Blob, often in news, is related to which of the following?**

- (a) Marine Plastic Pollution
- (b) Sea level rising
- (c) Ocean acidification
- (d) Marine Heat Waves

**Ans:- Option D**

Blob is the **name of marine heat wave in the Pacific Ocean**. In 2019 another scare was caused by a weaker form of the effect referred as **"The Blob 2.0"** and in 2021 the appearance of **"The Southern Blob"** at south of the equator near New Zealand has caused a major effect in South America, particularly Chile and Argentina.

**Q.25) Consider the following statements about Senna spectabilis:**

1. It is an endemic tree species found in the forests of Western Ghats.
2. The tree has allelopathic traits which prevents other plants from growing under it.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

**Senna spectabilis:** Senna spectabilis is an **invasive alien species** which is growing rampantly in forest areas **Nilgiri Biosphere Reserve** including Wayanad Wildlife Sanctuary. It is a matter of serious concern for the forests of Western Ghats. **The plant is native of Central America**. The allelopathic traits of the species prevent other plants from growing under it. It is a form of chemical warfare where the shed leaves decompose and change the chemical



composition of the soil, rendering it unsuitable for the growth of other plant species.

**Q.26) With respect to the Project NETRA sometimes seen in the news, consider the following statement:**

- (a) It aims to facilitate growth in the drone sector.
- (b) It is a surveillance project for women's safety.
- (c) It aims to monitor space debris.
- (d) It aims to assist the Visually Handicapped persons.

**Ans:- Option C**

The ISRO has initiated '**Project NETRA**' to monitor **space debris**. The domestic surveillance system would provide firsthand information on the status of debris, which would aid further planning on protecting space assets.

**Q.27) Consider the following statements:**

1. The Total Fertility Rate (TFR) is the average number of children who would be born to any women in her lifetime.
2. As per National Family Health Survey (NFHS)-5, India's TFR is below the replacement level of fertility.
3. According to NFHS-5, the decline in TFR among women in urban area is more than the decline in TRF among women of rural area.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option B**

**Statement 1 is correct:** The Total Fertility Rate (TFR) -- which is the **average number of children who would be born to any women in her lifetime** -- has declined from 2.2 in 2015-16 to 2.0 in 2019-21.

**Statement 2 is correct:** India's TFR of two is currently below the replacement level of fertility of 2.1 children per woman. Replacement level fertility represents the level at which a population exactly replaces itself from one generation to the next, thus leading to zero population growth if the level sustained over a sufficiently long period

**Statement 3 is incorrect:** The TFR among women in rural areas has declined from 3.7 children in 1992-93 to 2.1 children in 2019-21 i.e. a decline of 1.6 The corresponding decline among women in urban

areas was from 2.7 children in 1992-93 to 1.6 children in 2019-21 i.e. a decline of 1.1

**Q.28) Consider the following statement with reference to Anthrax infection:**

- (a) Anthrax is a zoonotic disease.
- (b) It is endemic to India.
- (c) It is caused by bacteria.
- (d) Antibiotics such as Ciprofloxacin are used to treat the infection.

**Ans:- Option C**

**Statement 1 is correct:** Anthrax is a **zoonotic disease primarily affecting ruminant herbivores** such as cattle, sheep, goats, antelope, and deer that become infected by ingesting contaminated vegetation, water, or soil; humans are generally incidental hosts.

**Statement 2 is incorrect:** Anthrax is most common in agricultural regions in Central and South America, sub-Saharan Africa, central and southwestern Asia, and southern and eastern Europe. Although outbreaks still occur in livestock and wild herbivores in the United States, Canada, and Western Europe.

**Statement 3 correct:** Anthrax is a **serious infectious disease caused by gram-positive, rod-shaped bacteria known as Bacillus anthracis**. It occurs naturally in soil and commonly affects domestic and wild animals around the world

**Q.29) Sundar committee sometimes seen in the news, is related to which of the following?**

- (a) Human resource and skill development.
- (b) Road safety and traffic management.
- (c) Tax reform in India.
- (d) Agriculture credit system.

**Ans:- Option B**

The expert committee is related to **Road Safety and Traffic Management in 2005**. It recommended the creation of the **National Road Safety & Traffic Management Board**, an Apex body at national level to promote road safety and traffic management.

**Q.30) With reference to PSLV-C53 program, consider the following statements:**

1. It is a commercial mission of New Space India Limited.
2. PSLV Orbital Experimental Module activity will be tested in this mission.
3. It carries the NeuSAR and SCOOB-1 satellite to Sun-Synchronous Polar Orbits.

**Which of the statements given above is/are correct:**

- (a) 3 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3.

**Ans:- Option D**

**Statement 1 is correct:** PSLV-C53 is the **second dedicated commercial mission** of New Space India Limited (NSIL).

**Statement 2 is correct:** ISRO uses a **"stabilised" fourth stage of the PSLV launch vehicle to conduct in-orbit experiments.** This — PSLV Orbital Experimental Module (POEM)SCOOB-I satellite is the first satellite in the Student Satellite Series (S3-I), a hands-on student training, in Sun-Synchronous Polar Orbits

**Q.31) Consider the following statements regarding 'Initial Public Offering (IPO)':**

- 1. Initial Public Offering (IPO) is a process by which a privately held company becomes publicly traded on a stock exchange.
- 2. The price of shares in an IPO is determined by supply and demand.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

An Initial Public Offering (IPO) is a **process by which a privately held company becomes publicly traded on a stock exchange. Hence, statement 1 is correct.**

An IPO is usually **underwritten by one or more investment banks**, which are responsible for facilitating the sale of shares and ensuring that the IPO is successful. **The price of shares in an IPO is determined by supply and demand.** The company and its underwriters will set an initial price for the shares, but the price can fluctuate after the IPO based on market conditions and the performance of the company. **Hence, statement 2 is correct.**

Investing in an IPO is **considered a high-risk investment**, as the company's financial performance and stock price can be volatile in the short term.

**Q.32) Consider the following statements:**

- 1. The two big contributors to India's agri-export growth have been Wheat and Sugar.
- 2. India has turned from a net exporter to a net importer of cotton.

**Which of the statements given below is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

The value of farm exports in April-December 2022 was 7.9% higher (USD 39 Billion) than the USD 36.2 bn for the corresponding period of the previous year. However, imports have grown 15.4% (USD 27.8 bn) in Apr-Dec 2022, over the USD 24.1 bn for Apr-Dec 2021. As a result, there has been a further shrinking of the surplus on the farm trade account.

**The two big contributors to India's agri-export growth have been Rice and Sugar. Hence, statement 1 is not correct.**

India has turned from a **net exporter** to a **net importer of cotton. Hence, statement 2 is correct.**

**Q.33) Which of the following statements is correct about 'Nirman se Shakti' initiative?**

- (a) It is a sub scheme under Pradhan Mantri Awas Yojana (PMAY) for urban housing being implemented by the Ministry of Housing and Urban Affairs (MoHUA).
- (b) It is a sub scheme under Pradhan Mantri Awas Yojana (PMAY) for rural housing being implemented by the Ministry of Rural Development (MoRD).
- (c) It is a mechanism to ensure Quality check for the projects under National Infrastructure Pipeline.
- (d) It is an initiative by Employees' State Insurance Corporation to modernize its infrastructure through upgrading hospitals, realtime dashboard for monitoring.

**Ans:- Option D**

Employees' State Insurance Corporation (ESIC) presented an **initiative named as 'Nirman Se Shakti' to modernize infrastructure.** It includes, upgradation/modernization of ESI Scheme (ESIS) hospitals and dispensaries in a phased manner, formulation of standard design for 100/200/500 bedded hospitals with better modern facilities, online real-time dashboard for project monitoring/supervision, adoption of new building technologies to ensure quality of construction,

elimination of delays, cost overrun, digitalization of land/property documents etc. Hence, Option D is correct.

**Q.34) Consider the following statements:**

1. Encouraging Exports
2. Promoting Import Substitution
3. Improving Productivity and Competitiveness

**Which of the above action(s) can help in reducing the current account deficit?**

- (a) 1 and 2 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option D**

Current account deficit (CAD) is when the value of a country's imports of goods and services is greater than its exports. CAD and fiscal deficit together make up twin deficits that can impact the stock market and investors.

**Ways to Moderate Current Account Deficit:**

- **Encourage Exports:** Increasing exports is one of the most effective ways to reduce CAD.
- **Promote Import Substitution:** Encouraging domestic production of goods that are currently being imported can help to reduce the trade deficit.
- **Improve Productivity and Competitiveness:** Improving the productivity and competitiveness of the domestic economy can help to increase exports and reduce the trade deficit. Hence, option D is correct.

**Q.35) Which of the following statements about Payment aggregators is/are correct?**

1. Payment aggregators are companies that facilitate online payments by acting as intermediaries between the customer and the merchant.
2. A payment gateway is a software application that connects an online store or merchant to a payment processor, allowing the merchant to accept payment from a customer.
3. Payment aggregators are not allowed by RBI to offer a payment gateway.

**Select the correct answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 only
- (d) 1, 2 and 3

**Ans:- Option A**

- A payment gateway is a software application that connects an online store or merchant to a payment processor, allowing the merchant to accept payment from a customer. Hence, statement 2 is correct.
- Payment aggregators, on the other hand, are intermediaries that provide a single platform to connect multiple merchants and customers to different payment processors. Hence, statement 1 is correct.
- The main difference between a payment aggregator and payment gateway is that the former handles funds while the latter provides technology. However, Payment aggregators can offer a payment gateway. Hence, statement 3 is not correct.

**Q.36) Which of the following statements is/are correct about the Food Corporation of India (FCI)?**

1. FCI is a Public Sector Undertaking, under the Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution.
2. FCI was established in 1965 under the Food Corporations Act 1964 to deal with a major shortage of grains, especially wheat.
3. FCI's primary duty is to undertake purchase, store, move/transport, distribute and sell food grains and other foodstuffs.
4. FCI is responsible for recommending remunerative prices to farmers.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 1, 2, 3 and 4
- (c) 2 and 4 only
- (d) 1, 2 and 3

**Ans:- Option D.**

The Food Corporation of India (FCI) is a Public Sector Undertaking, under the Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution. FCI was established in 1965 under the Food Corporations Act 1964 to deal with a major shortage of grains, especially wheat. FCI's primary duty is to undertake purchase, store, move/transport, distribute and sell food grains and other foodstuffs. Recommending remunerative prices to farmers is the function of

the Commission for Agricultural Costs and Prices (CACP).

**Q.37) Which of the following are the objectives of the Open Market Sale Scheme (OMSS)?**

1. Enhancing the supply of grains during the lean season.
2. Moderating the general open market prices, especially in deficit regions.
3. Maintaining buffer stocks and provisions for meeting the requirement of the Targeted Public Distribution Scheme (TPDS) and Other Welfare Schemes (OWS).
4. Ensuring that food grains are sold only to State Governments/Union Territory Administrations.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2 and 3

**Ans:- Option D.**

The objectives of the Open Market Sale Scheme (OMSS) are **to enhance the supply of grains during the lean season, moderate the general open market prices, especially in deficit regions, and maintain buffer stocks** and provisions for meeting the requirement of the Targeted Public Distribution Scheme (TPDS) and Other Welfare Schemes (OWS)

**Q.38) Regarding Regenerative agriculture, consider the following statements:**

1. It is a holistic farming system that focuses on food quality and biodiversity of the environment.
2. It discourages the use of chemical fertilizers and pesticides.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: Option C**

- Regenerative agriculture is a **holistic farming system** that focuses on **soil health, food quality, biodiversity improvement, water quality and air quality. Hence, statement 1 is correct.**
- Through methods such as reducing the use of chemical fertilisers and pesticides, reducing tillage,

integrating livestock and using cover crops. **Hence, statement 2 is correct.**

**It adheres to the following principles:**

- Minimise soil distribution through conservation tillage
- Diversify crops to replenish nutrients and disrupt pest and disease lifecycles
- Retain soil cover using cover crops
- Integrate livestock, which adds manure to the soil and serves as a source of carbon sinks

**Q.39) Consider the following statements regarding Glyphosate:**

1. It is a key herbicide used in sugarcane and maize.
2. In India, its consumption is highest in the state of Maharashtra.
3. Recently, India has become the first country to ban Glyphosate.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans:- Option A**

- Glyphosate is an **Herbicide, developed in 1970.** Its scientific name is **N-(phosphonomethyl) glycine** under the International Union of Pure and Applied Chemistry (IUPAC) system of nomenclature.
- Glyphosate was highly accepted by the tea planters in the past two decades. It has a very **good market size in the tea sector of West Bengal and Assam.**
- Presently, **its consumption is highest in Maharashtra** as it is becoming a key herbicide in sugarcane, maize and many fruit crops. **Hence, both statement 1 and statement 2 are correct.**
- **Health impacts** of glyphosate range from **cancer, reproductive and developmental toxicity to neurotoxicity and immunotoxicity.**
- **Symptoms** include irritation, swelling, burning of the skin, oral and nasal discomfort, unpleasant taste and blurred vision.
- Some **35 countries have banned or restricted the use of glyphosate:** These include Sri Lanka, Netherlands, France, Colombia, Canada, Israel and Argentina.
- The Ministry of Agriculture and Farmers Welfare has also recently restricted the use of glyphosate, a widely used herbicide, citing health hazards for



humans and animals. Hence, statement 3 is not correct.

**Q.40) Regarding Milk Production in India, consider the following statements:**

1. Total milk production in India was around 500 million tonnes in 2021-2022.
2. Production had increased by about 5% over the previous year.
3. Rajasthan is the top milk-producing state in India.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3 only

**Ans: Option B**

- **Milk Production:** Total milk production in India was 221.06 million tonnes in 2021-2022, making it the largest milk producing country in the world. Hence, statement 1 is not correct.
- Production had increased by 5.29% over the previous year. Hence, statement 2 is correct.
- The Indigenous cattle contribute 10.35% of the total milk production in the country whereas non-descript cattle contribute 9.82% and non-descript buffaloes contribute 13.49% of the total milk production in the country.
- **Top five major milk producing States** are Rajasthan (15.05%), Uttar Pradesh (14.93%), Madhya Pradesh (8.06%), Gujarat (7.56%) and Andhra Pradesh (6.97%). Hence, statement 3 is correct.

**Q.41) Consider the following statement regarding Anti-Dumping Duties (ADD):**

1. ADD is a customs duty on goods that have received government subsidies in the originating or exporting country.
2. The Directorate General of Trade Remedies' (DGTR) under the Ministry of Corporate Affairs administers Anti-Dumping Duties on products.

**Which of the statements given above is/are not correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: Option C**

**Anti-Dumping Duty:** Dumping is said to occur when the goods are exported by a country to another country at a price lower than the price it normally charges in its own home market.

**Different from Countervailing Duties:**

- ADD is a customs duty on imports providing a protection against the dumping of goods at prices substantially lower than the normal value whereas **Countervailing duty is a customs duty on goods** that have received government subsidies in the originating or exporting country. Hence statement 1 is not correct.
- **WTO's Provisions Related to Anti-Dumping Duty:** An anti-dumping duty is valid for a period of five years from the date of imposition unless revoked earlier.
- Directorate General of Trade Remedies under the Ministry of Commerce and Industry for administering all trade remedial measures including anti-dumping, countervailing duties and safeguard measures. Hence Statement 2 is not correct.

**Q.42) Consider the following statements regarding the major ports of India:**

1. India's latest major port is VadHAVAN port, being developed on the landlord model.
2. Kamarajar Port is located on the coast of Andhra Pradesh.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: Option A**

According to the Ministry of Ports, Shipping and Waterways, around **95% of India's trading by volume and 68% by value is done through maritime transport**. It is serviced by **13 major ports** (12 Government-owned and one private).

**VadHAVAN Port will be the 13th major port in India.** The port will be developed on the landlord model. Hence statement 1 is correct.

**Kamarajar Port Limited, formerly Ennore Port,** is located on the **Coromandel Coast**, Chennai about 18 km north of Chennai Port at the coast of Tamil Nadu. The **Kamarajar Port Limited is the only corporatised major port and is registered as a company.** Hence statement 2 is not correct.

**Q.43) Consider the following statements regarding 'Reserve Bank of India':**

1. It was established in 1935, in accordance with the provisions of the Reserve Bank of India Act, 1934.
2. The current accounts of the banks are opened by the Banking Departments of the Reserve Bank's Regional offices.
3. RBI is entrusted with the responsibility of conducting monetary policy in India, under the Reserve Bank of India Act 1934.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 3 only
- (d) 1, 2 and 3

**Ans: Option D**

- The Reserve Bank of India was **established on April 1, 1935** in accordance with the provisions of the Reserve Bank of India Act, 1934. **Hence, statement 1 is correct.**
- Banks are required to maintain a portion of their demand and time liabilities as cash reserves with the Reserve Bank. For this purpose, they need to maintain their current account with the Reserve Bank. **The current accounts of the banks are opened by the Banking Departments of the Reserve Bank's Regional offices. Hence, statement 2 is correct.**
- Under the Reserve Bank of India, Act, 1934 (RBI Act, 1934) (as amended in 2016), **RBI is entrusted with the responsibility of conducting monetary policy in India** with the primary objective of maintaining price stability while keeping in mind the objective of growth. **Hence, statement 3 is correct.**

**Q.44) With reference to the Digital Bank, consider the following statements:**

1. It will be defined in the Banking Regulation Act, 1949.
2. It shall have its own balance sheet and legal existence.
3. It will not be subject to prudential and liquidity norms on a par with existing commercial banks.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans: Option A**

- **Digital Bank:** It will be defined in the Banking Regulation Act, 1949, and shall have its own balance sheet and legal existence. **Hence, statement 1 and 2 are correct.**
- It will be **different from the 75 Digital Banking Units (DBUs)** – announced by Finance Minister in Union Budget 2022-23 – which are being set up to push digital payments, banking and fintech innovations in underserved areas.
- A DBU is a **specialised fixed point business unit or hub housing certain minimum digital infrastructure** for delivering digital banking products and services as well as servicing existing financial products and services digitally in self-service mode at any time.
- Digital banks will be subject to prudential and liquidity norms on a par with existing commercial banks. **Hence, statement 3 is not correct.**

**Q.45) Which of the following statements is/are correct?**

1. C2+50 formula for the calculation of MSP is given by the Rangarajan Committee.
2. C2 represents the total cost of the crop's economic value which includes efforts of family members working on the farm, rent and other assets.

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: Option B**

- M S Swaminathan report had recommended that the MSP should be **calculated by including all actual farm costs as C2 along with an additional 50% margin i.e C2+50 percent formula. Hence, statement 1 is not correct.**
- The C2+50 method **performs MSP calculations involving a wider range of inputs.**
- This includes, in addition to the factors used to calculate A2, the economic value of the efforts of family members working on the farm, and the value of other expenses, including rent and other assets (C2). **Hence, statement 2 is correct.**

**Q.46) Regarding the Stockholm Convention, consider the following statements:**

1. It is a global treaty to protect human health and the environment from Persistent Organic Pollutants (POPs).
2. It aims to clean up old stockpiles and equipment containing Persistent Organic Pollutants (POPs).
3. India has not ratified the Stockholm Convention.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, and 3 only

**Ans: Option A**

- It is a **global treaty to protect human health and the environment from Persistent Organic Pollutants (POPs)**. POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms, and are toxic to humans and wildlife. **Hence, statement 1 is correct.**

**Its objectives are:**

- Support the transition to safer alternatives.
- Target additional POPs for action.
- Clean up old stockpiles and equipment containing POPs.
- Work together for a POPs-free future. **Hence, statement 2 is correct.**

**India ratified the Stockholm Convention in 2006 as per Article 25(4)**, which enabled it to keep itself in a default “opt-out” position such that amendments in various Annexes of the convention cannot be enforced on it unless an instrument of ratification/ acceptance/ approval or accession is explicitly deposited with UN depositary. **Hence, statement 3 is not correct.**

**Q.47) Consider the following statements:**

1. Meteorological Drought is based on the impact of rainfall deficits on the water supply.
2. Socioeconomic Drought refers to the impact of drought conditions on supply and demand of economic goods.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2

(d) Neither 1 nor 2

**Ans: Option B**

**Meteorological Drought:** It is based on the degree of dryness or rainfall deficit and the length of the dry period. **Hence, statement 1 is not correct.**

**Hydrological Drought:** It is based on the impact of rainfall deficits on the water supply such as stream flow, reservoir and lake levels, and ground water table decline.

**Socioeconomic Drought:** It considers the impact of drought conditions (meteorological, agricultural, or hydrological drought) on supply and demand of some economic goods such as fruits, vegetables, grains and meat. **Hence, statement 2 is correct. Hence, option B is correct.**

**Q.48) According to their number of Ramsar sites, arrange the following states in decreasing order.**

1. Tamil Nadu
2. Gujarat
3. Jammu and Kashmir
4. Assam

**Select the correct answer using the code given below:**

- (a) 4-3-2-1
- (b) 1-3-2-4
- (c) 3-4-1-2
- (d) 1-3-4-2

**Ans:- Option B**

States	Number of Ramsar Sites
Tamil Nadu	14
Jammu and Kashmir	6
Gujarat	4
Assam	1

Therefore, correct sequence: 1-3-2-4. **Hence, option B is correct.**

**Q.49) Consider the following statements with reference to the Forest Rights Act, (FRA), 2006:**

1. FRA allows the community to formulate rules for use of forest produce itself.
2. These rights give the authority to the Gram Sabha to adopt local traditional practices of forest conservation.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**.Ans: Option C**

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act commonly referred to as The **Forest Rights Act (FRA), 2006** recognizes the **rights of the forest dwelling tribal communities and other traditional forest dwellers to forest resources**, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs.

These rights **allow the community to formulate rules for forest use** by itself and others and thereby discharge its responsibilities under Section 5 of the FRA. **Hence, statement 1 is correct.**

These rights give the authority to the Gram Sabha to adopt local traditional practices of forest conservation and management within the community forest resource boundary. **Hence, statement 2 is correct.**

**Q.50) Consider the following statements:**

1. El Nino events represent periods of below-average sea surface temperatures across the east-central Equatorial Pacific.
2. La Nina is a climate pattern that describes the unusual warming of surface waters in the eastern tropical Pacific Ocean.
3. El Nino also impacts the speed and strength of ocean currents.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

**Ans: Option C**

- 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. **Hence, statement 1 is not correct.**
- 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). **Hence, statement 2 is not correct.**

**Q.51) Consider the following statements regarding ‘Heat Waves’:**

1. A heatwave is defined as a station’s peak temperature reaching at least 40°C for both the Plains and the Hills.
2. India has recognized the heat wave as a natural disaster.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: Option D**

- 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. **Hence, statement 1 is not correct.**
- 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.** Recognizing heat waves as a major disaster is long due. India still has a long way to go in building public awareness, particularly on how individuals and local communities can take care of themselves. **Hence, statement 2 is not correct.**

**Q.52) Which of the following National Parks are located in Odisha?**

1. Nandankanan Zoological Park
2. Simlipal National Park
3. Bhitarkanika National Park
4. Debrigarh Wildlife Sanctuary

**Select the correct answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, 3 and 4

**Ans:- Option D.**

All the above-mentioned national parks are located in Odisha; **Hence, all the statements are correct**



**Q.53) Consider the following statements regarding the Ocean Thermal Energy Conversion (OTEC) Plant:**

1. It uses a temperature difference of at least 77°F to power a turbine to produce electricity.
2. Its system uses seawater as working fluid.
3. OTEC plants can't work at night.

**Which of the above statements is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

**Ans:- Option A**

OTEC systems use seawater as the working fluid and can use condensed water to produce desalinated water. Hence, statement 2 is correct.

**Significance:**

- **Two of the biggest advantages of OTEC** are that it produces clean environmentally friendly renewable energy and, unlike solar plants which can't work at night and wind turbines which only work when it's windy, OTEC can produce energy at all times. Hence, statement 3 is not correct.

**Q.54) Which of the following statements is/are correct regarding the Convention on Biological Diversity (CBD)?**

1. It is a legally binding treaty.
2. It operates under the United Nations Environment Program (UNEP).

**Select the correct answer using the code given below**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

The Convention on Biological Diversity (CBD), a legally binding treaty to conserve biodiversity, has been in force since 1993. Hence, statement 1 is correct.

**It has 3 main objectives:**

- The conservation of biological diversity.
- The sustainable use of the components of biological diversity. The CBD Secretariat is based in Montreal, Canada and it operates under the United Nations Environment Program. Hence, statement 2 is correct.

- A supplementary agreement to the Convention known as the Cartagena Protocol on Biosafety was adopted in 2000.

**Q.55) Consider the following statements regarding Lions:**

1. African lions are slightly smaller than Asiatic lions.
2. Asiatic Lion is a critically endangered species.
3. Gir National Park is the only natural habitat of Asiatic Lions.

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1 and 3 only

**Ans:- Option C**

- **Scientific Name:** Panthera leo
- **The lion is divided into two subspecies:** the African lion (Panthera leo leo) and the Asiatic lion (Panthera leo persica).
- Asiatic lions are slightly smaller than African lions. Hence, statement 1 is not correct.
- The most striking morphological character, which is always seen in Asiatic lions, and rarely in African lions, is a longitudinal fold of skin running along its belly. IUCN Red List: Vulnerable Asiatic Lion - Endangered. Hence, statement 2 is not correct.
- **CITES:** Appendix I for populations of India, all other populations are included in Appendix II. Wildlife (Protection) Act 1972: Schedule I

**Status in India:**

India is home to the majestic Asiatic Lion, who inhabit the protected territory of Sasan-Gir National Park (Gujarat). It is the only natural habitat of world popular Asiatic Lions. Hence, statement 3 is correct

**Q.56) Which of the following statements is/are correct?**

1. Under the Most Favored Nation treatment agreement, countries can discriminate between their trading partners by favoring some selected partners.
2. The National Treatment means treating foreigners and locals equally
3. Charging customs duty on an import is not a violation of national treatment.

**Select the correct answer using the code given below:**

- (a) 1 and 2 only

- (b) 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

**Ans:- Option D**

**Statement 1 is incorrect:** Granting someone a special favor (such as a lower customs duty rate for one of their products) leads to do the same for all other WTO members. This principle is known as **most-favored-nation (MFN) treatment**.

**Q.57) Which of the following statement correctly defines the term 'Soft Currency'?**

- (a) A legal tender which is digitally traded across the financial system of a country.
- (b) A Centrally backed digital crypto asset.
- (c) A legal tender which is hyper sensitive and fluctuates frequently.
- (d) Fiduciary money backed up by trust between the payer and payee.

**Ans:- Option C**

**Soft Currency:** Soft currency is a currency which is hyper sensitive and fluctuates frequently. Such currencies react very sharply to the political or the economic situation of a country. **It is also known as weak currency due to its unstable nature.** Such currencies **mostly exist in developing countries with relatively unstable Governments.** Soft currencies cause high volatility in exchange rates as well, making them undesirable by foreign exchange dealers.

**Q.58) Which of the following statements is incorrect regarding Transfer Payments?**

- (a) They are receipts which the residents of a country receive for free, without having to make any present or future payments in return.
- (b) It is a tool to redistribute income and wealth in an economy.
- (c) Remittances, gifts and grants, and Government subsidies are considered as transfer payments.
- (d) It is included under revenue expenditure while calculating Gross Domestic Product.

**Ans:- Option D**

**Transfer payments:** Transfer payments are **receipts which the residents of a country receive 'for free'**, without having to make any present or future payments in return. **They consist of remittances, gifts and grants, financial aid, social security, and Government subsidies.** In economics, a transfer payment is a redistribution of income and wealth by

means of the government making a payment, without goods or services being received in return.

**Q.59) Exchange-Traded Fund (ETF) is a basket of securities that can be traded on a stock exchange. In this regard, consider the following statements:**

1. The return and risk on ETF are directly related to the underlying index or asset it tracks.
2. Bharat 22 is the first ETF launched by Finance ministry to speed up its disinvestment programme.

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

**Statement 1 is correct:** The return and risk on ETF are directly related to the underlying index like the BSE Sensex or asset like gold.

**Statement 2 is incorrect:** Bharat 22 is not the first ETF launched by Finance Ministry. Ministry of Finance had launched Central Public Sector Enterprise Exchange Traded Fund (CPSE ETF) in 2014

**Q.60) Consider the following statements:**

**Assertion (A):** A member country need not to present a declaration of balance of payments-related needs to make a purchase in the reserve tranche.

**Reason (R):** The reserve tranche is a segment of an International Monetary Fund (IMF) member country's quota that is accessible without any fees or economic reform conditions.

**Select the correct answer using the code given below:**

- (a) Both A and R are correct and R is the correct explanation of A.
- (b) Both A and R are correct but R is not the correct explanation of A.
- (c) A is correct but R is incorrect.
- (d) R is correct but A is incorrect.

**Ans:- Option D**

**Reserve position Reserve position in the IMF is the sum of**

- (a) The **"reserve tranche," that is, the foreign currency** (including Special Drawing Rights) amounts that a member country may draw from the IMF at short notice; and

(b) **Any indebtedness of the IMF** (under a loan agreement) **in the General Resources Account that is readily available to the member country**, including the reporting country's lending to the IMF under the General Arrangement to Borrow (GAB) and the New Arrangement to Borrow (NAB).

**Q.61) Which of the following statements about factors affecting exchange rate system I incorrect?**

- (a) RBI sells dollars when Indian rupee depreciates.
- (b) An increase in inflation rate can increase the demand for foreign currency.
- (c) Higher interest rates can lead to the outflow of foreign currency.
- (d) An increase in exports, appreciates domestic currency.

**Ans:- Option C**

**Factors affecting exchange rate system**

- The exchange rate is the **value of a currency in terms of a different currency**. Many buyers and sellers are engaged in the foreign currency market, including students, commercial banks, brokers, and more.
- **Foreign Exchange Reserves are important assets held by the central bank in foreign currencies as reserves**. They are commonly used to support the exchange rate and set monetary policy. **Most of the reserves are usually held in US dollars**, given the currency's importance in the international financial and trading system.
- **India's foreign exchange reserves** include: Foreign Currency Assets, Gold Reserves, Special Drawing Rights (SDR) and Reserve position with International Monetary Fund (IMF)

**Q.62) With respect to Balance of Trade, which of the following statement is/are correct?**

1. Balance of trade is the difference between the value of a country's imports and exports for a given period.
2. The Balance of Payment (BOP) combines only public investments to find out the money in flow and out flow in an economy over a specific period.
3. Positive Balance of Payment (BOP) indicates deficit.

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 1 and 3 only
- (c) 1 and 2 only
- (d) 2 and 3 only

**Ans:- Option A.**

**Statement 1 is correct:** The term 'trade' refers to **buying and selling of goods**. However, when it is performed on an **international scale, it is called imports and exports**. Balance of Trade (BOT) mentions the import and exports made by a nation's economy within a specific year. **BOT only records tangible items**. **Balance of trade (BOT) is the difference between the value of a country's imports and exports for a given period** and is the largest component of a country's balance of payments (BOP).

**Q.63) The Global Minimum Corporate Tax rate of 15%, as endorsed by the G7 countries, best deals with which of the following burning issues in global economy:**

- (a) Crony capitalism
- (b) Base Erosion and Profit Shifting
- (c) Round tripping
- (d) Transfer pricing

**Ans:- Option B**

- G-7 corporate tax -Advanced economies making up the G7 grouping reached a "historic" deal on taxing multinational companies.
- They **agreed to counter tax avoidance** through measures to make companies pay in the countries where they do business.
- They also **agreed in principle to ratify a global minimum corporate tax rate** to counter the possibility of countries undercutting each other to attract investments.
- **Under base erosion and profit shifting, multinational companies shift their tax base or profits from high tax countries like India**, to tax havens like Switzerland by using different techniques and accounting manipulations.

**Q.64) Consider the following statements:**

1. Comprehensive Economic Cooperation Agreement (CECA) generally covers negotiations on trade tariffs and TRQ (tariff rate quotas) rates only.
2. Under the Preferential trade agreement (PTA), two or more partners give preferential right of entry to certain products by reducing duties.

**Which of the above statements is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

**Statement 1 is correct:** CECA generally covers negotiations on trade tariffs and TRQ (tariff rate quotas) rates only.

**Statement 2 is correct:** Under the PTA, two or more partners give preferential right of entry to certain products by reducing the duty.

**Q.65) Select the most appropriate definition of "Greenfield FDI:"**

- (a) It is the foreign direct investment in assets and capital of a country used to build green corridors.
- (b) It refers to the FDI permitted by the Government of a country after it clears all the stages of Environment Impact assessment
- (c) It is the investment done by a company in new assets and capital to set up its base from ground up.
- (d) It is a recent initiative of the G20 group to promote foreign investment in environmental projects and accomplish the SDGs.

**Ans:- Option C**

- There are **two types of foreign direct investments**, i.e., Greenfield and Brownfield.
- Under the **Greenfield FDI**, a company will build its own brand new facilities and assets to set up itself.
- While, under the **Brownfield FDI**, the investing company leases or purchases an existing facility.

**Q.66) In which of the following context does the Vesak festival celebrated?**

- (a) It is celebrated in temples dedicated to Goddesses Kali or Durga in Kerala.
- (b) It is celebrated by Vaishnavas by preparing a variety of food to feed Krishna.
- (c) It is a fair held in Karnataka once in two years by making an offering to the deity for the fulfillment of a wish.
- (d) It is celebrated to mark the birth of Gautama Buddha, the founder of Buddhism.

**Ans:- Option D.**

Vesak is one of the **most important Buddhist festivals**. It is also known as **Wesak or Buddha Jayanti or Buddha Purnima or Buddha Day**. It is a celebration of Buddha's birthday and, for some Buddhists, marks his Enlightenment (Nirvana - when he discovered truth about life and stops being reborn). It is also a time to reflect on his teachings and what it means to be a Buddhist. **The lunar month of Vaisakha is considered the month of the Buddha's birth** and derives from the Pali term

vesākha or the Sanskrit word vaiśākha. **So, Option (d) is correct**

**Q.67) Which of the following statements best describes the term 'Veblen goods'?**

- (a) It is a type of luxury good for which the demand increases as the price increases.
- (b) It is a type of consumer good for which demand decreases as the price increases.
- (c) It is a type of luxury good for which the demand decreases as the price increases.
- (d) It is a type of consumer good that is not necessary to be purchased before their consumption.

**Ans:- Option A.**

Veblen goods are **typically high-quality, well-made items that are exclusive and serve as a status symbol** in the practices of conspicuous consumption. **A good for which demand increases when its price increases**, and vice versa. The law of demand holds that the relationship between a price change and a quantity change is inverse. This holds true for normal goods. Sometimes, it is found that both price and quantity changes are in the same direction. Actually, people consuming such goods are not rich. **These goods are called Giffen goods (in honour of Robert Giffen, who first observed it).**

**Q.68) In recent times, Europe's most important waterway, the Rhine river, is at a record low, making it too shallow for many ships to pass. The river passes through which of the below countries?**

1. Switzerland
2. Germany
3. Austria
4. Liechtenstein
5. France
6. Netherlands

**Select the correct answer from the codes given below:**

- (a) 1, 2 and 4 only
- (b) 3, 5 and 6 only
- (c) 1, 2, 4, 5 and 6 only
- (d) 1, 2, 3, 4, 5 and 6

**Ans:- Option D (Refer Map)**





**Q.69) The large Lake Razzaza in the news is located in which country?**

- (a) Iran
- (b) Iraq
- (c) Syria
- (d) Jordan

**Ans:- Option B (Refer Image)**



Lake Razzaza, also known as **Lake Milh** (Arabic for Salt Lake), is the **second-largest Lake** (man-made) in **Iraq** and is part of a wide valley that includes the lakes of Habbaniyah, Tharthar and Bahr al-Najaf. **The Lake was constructed to control floods in the Euphrates and to be used as a huge reservoir for irrigation purposes.** It was completed in the 1970s to receive excess water from Habbaniya Lake during flood season via drainage canals. A combination of ongoing upstream dam projects and sporadic droughts that reduce annual rainfall impact Lake Razzaza. **So, Option (b) is correct.**

**Q.70) Cyclopean wall, in the news, was built in order to protect a famous ancient city of?**

- (a) Madurai
- (b) Hampi
- (c) Rajgir
- (d) Varanasi

**Ans:- Option C.**

The Cyclopean Wall of Rajgir is a 40 km long stone wall that encircled the ancient city of Rajgir to protect it from external enemies and invaders, built before the 3rd century BC. Recently, the **Government of Bihar sent a proposal to the Archaeological Survey of India to get the Cyclopean Wall of Rajgir listed as a UNESCO world heritage site.** The Cyclopean Wall of Rajgir was

erected by the Brihadratha (rawani) Dynasty rulers using massive undressed stones. The walls are also mentioned in Buddhist works

**Q.71) Low-temperature thermal desalination technology is operated in which of the following place(s):**

- 1. Lakshadweep Islands
- 2. Andaman and Nicobar Islands
- 3. Gulf of Kachchh
- 4. Gulf of Mannar

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 1 and 2 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

**Ans:- Option A**

Low-Temperature Thermal Desalination (LTTD) is a **process under which the warm surface seawater is flash evaporated at low pressure**, and the vapor is condensed with cold deep seawater. **It is mainly used for the conversion of seawater into potable water, suitable for installation in the island territories and near the coastal Power Plants.** Recently, three desalination plants based on the LTTD technology have been developed and demonstrated at **Kavaratti, Agati, and Minicoy Islands of the Union Territory of Lakshadweep in India.** The capacity of each of these LTTD plants is 1 Lakh liter of potable water per day.

**Q.72) Consider the following statements:**

- 1. In India, cybercrimes did not get any legal recognition.
- 2. Hacktivism is a form of cyberattack where the hacker's motivation is not financial gains but to promote a political agenda or protest against certain policies.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

Criminal activities or offences carried out in a **digital environment can be considered a cyber crime.** In such crimes, either the computer itself is the target

or the computer is used as a tool to commit a crime. **Cyber crimes are carried out against an individual, a group, an organisation, or even against a country with the intent to directly or indirectly cause physical harm, financial loss or mental harassment.**

The Government of India's Information Technology Act, 2000 (also known as IT Act), amended in 2008, and provides guidelines to the user on the processing, storage and transmission of sensitive information. **In many Indian states, there are cyber cells in police stations where one can report any cybercrime.** The act provides the legal framework for electronic governance by giving recognition to electronic records and digital signatures. The act outlines cyber crimes and penalties for them. **In India, cyber crimes are contained by the Information Technology Act, 2000 (IT Act) and the Indian Penal Code 1860. So, Statement 1 is not correct.**

**Q.73) With reference to Participatory notes, consider the following statements:**

1. The participatory notes are issued by brokers and foreign institutional investors that have registered with the Securities and Exchange Board of India (SEBI) and invest on behalf of foreign investors.
2. SEBI has no direct jurisdiction over participatory note trading.

**Which of the statements given above is/are not correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D.**

The P-notes are **sold directly to investors and are not traded on an exchange.** They are generally issued overseas by associates of India-based foreign brokerages (FPIs) and domestic institutional investors. **So, Statement 1 is correct.**

The Securities and Exchange Board of India (SEBI) **has no direct jurisdiction over them but has attempted to control the market by imposing various stipulations around foreign institutional investors (FII) in India selling these notes.** Although foreign institutional investors must register with the Indian regulatory board, the participatory notes trading among foreign institutional investors are not recorded. Officials fear this practice may lead to

the P-notes being used for money laundering or other illegal activity. **So, Statement 2 is correct.**

**Q.74) Which of the following was the demand of 'Thiruvananthapuram Declaration'?**

- (a) To revive agro-based industries after Kerala flood.
- (b) To find solution for the problem of soil erosion caused by the construction of Vizhinjam Port.
- (c) To protect Western Ghats
- (d) To pass women reservation bill

**Ans:- Option D**

The **first National Women Legislators' Conference adopted the Thiruvananthapuram Declaration,** which demanded immediate steps to ensure the passage of the **long-pending Women's Reservation Bill,** which envisages **33% reservation for women in the Lok Sabha and State legislatures** which has been pending for 26 years, as a sullied blot on the democratic values and legislative traditions of the country. Another resolution adopted in the Conference called for legislation to curb defamatory remarks against women. **So, Option (d) is correct.**

**Q.75) 'Nun Cho Ga', is a term denoting which among the following?**

- (a) Traveller
- (b) Bird
- (c) Mammoth
- (d) Cyclone

**Ans:- Option C**

Recently Canadian gold miners found a rare mummified baby woolly mammoth. **The animal is believed to be female and would have died more than 30,000 years ago during the ice age** when woolly mammoths roamed this region alongside wild horses, cave lions and giant steppe bison. This baby mammoth was a little over 4 1/2 feet from the base of its tail to the base of its trunk. Though its body was broken in half, possibly by the excavator or by natural forces, it was complete from tip to tail over time.

**Q.76) Currently, which of the following are outside the ambit of GST?**

1. Petroleum crude
2. High-speed diesel
3. Kerosene
4. CNG
5. LPG - domestic
6. LPG – Non-domestic

Select the correct answer using the code given below:

- (a) 1, 2, 5 and 6 only
- (b) 2, 4 and 6 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3 and 6 only

**Ans:- Option C.**

Goods and Services Tax (GST) is an **indirect tax used in India on the supply of goods and services**. It is a comprehensive, multistage, destination-based tax: comprehensive because it has subsumed almost all the indirect taxes except a few state taxes

**The items which are outside the ambit of GST are,**

- Alcoholic Liquor,
- Electricity and
- Petroleum products (Petroleum Products such as petroleum crude, motor spirit (petrol),
- High speed diesel, natural gas, and aviation turbine fuel. However, the taxes for these products will be charged as per the structure before the introduction of GST.

**The Products which are under the ambit of GST are:** kerosene (5%), naphtha and LPG (both domestic (5%) and non-domestic (commercial liquefied LPG grades (18%)) **So, option (c) is correct.**

**Q.77) Consider the following statements with reference to Reserve Funds of State Governments:**

1. Consolidated Sinking Fund (CSF) is an amortisation fund created to meet repayment obligations of the State Government.
2. Guarantee Redemption Fund (GRF) is being provided to State Governments by RBI against the collateral of their investments in marketable securities.
3. CSF and GRF are reserve funds maintained by State Governments with the Reserve Bank of India.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans:- Option C**

The Reserve Bank of India (RBI) **manages two reserve funds on behalf of State Governments to meet their contingent liabilities;** Consolidated Sinking Fund (CSF) and Guarantee Redemption Fund (GRF)

CSF is a **reserve fund created to meet the repayment obligations of the Government**. The interest accrued and accumulated in the Fund is utilized towards the redemption of outstanding liabilities of the Government. **The State Governments constitute GRF to meet their obligations arising from guarantees issued on behalf of State level bodies**. Collected Funds can be utilized only for payment of guarantees issued by the Government in respect of bonds issued/ other borrowings by their State level undertakings/ other bodies. Whereas a Special Drawing Facility (SDF) is being provided to State Government by RBI against the collateral of their investment in marketable securities issued by the Government of India. **In 2005, Bezbaruah Committee recommended the usage of CSF and GRF as collateral for SDF. So, Statements 1 and 3 are correct.**

**Q.78) Consider the following:**

1. Transfer payments
2. Net investment income
3. Net non-factor income
4. NRI deposits with Indian banks
5. Foreign Portfolio Investment

**Which of the above forms part of the Current Account under the Balance of Payment?**

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1, 3 and 4 only
- (d) 1, 2 and 5 only

**Ans:- Option A.**

**The current Account is the record of trade in goods and services and transfer payments under the Balance of Payments.**

- Trade in services includes factor income and non-factor income transactions.
- Factor income includes net international earnings on factors of production (like labour, land, and capital). In that, **Non-factor income** is the **net sale of service products like shipping, banking, tourism, software services, etc**
- Transfer payments are the receipts that the residents of a country get for 'free', without having to provide any goods or services in return. They consist of gifts, remittances, and grants. They could be given by the government or by private citizens living abroad. **So, Option (a) is correct.**

**Q.79) "Progress of the World's Women" is a flagship publication produced by which of the following organisations?**

- (a) United Nations Development Programme
- (b) World Economic Forum
- (c) United Nations Educational, Scientific and Cultural Organization
- (d) United Nations Women

**Ans:- Option D**

**UN Women's flagship report, "Progress of the world's women 2019–2020: Families in a changing world", assesses the reality of families today in the context of sweeping economic, demographic, political, and social transformation. It also analyses key issues such as family laws, employment, and unpaid care work, violence against women, and families and migration. So, Option (d) is correct**

**Q.80) Consider the following statements:**

- 1. Under the repo transaction, banks can borrow short-term funds from RBI by pledging government securities from the Statutory Liquidity Ratio (SLR) quota.
- 2. Under the Marginal Standing Facility (MSF), banks can borrow short-term funds by pledging government securities only from the non-SLR quota.
- 3. MSF rate is usually lower than the repo rate.
- 4. e-Kuber portal is the core banking solution of RBI for conduction repo transactions.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 3 and 4 only
- (c) 1, 2 and 4 only
- (d) 4 only

**Ans:- Option D**

Commercial banks, scheduled UCBs, Primary Dealers, insurance companies and provident funds, who maintain funds accounts and securities accounts with RBI, are members of this electronic platform. **All members of E-Kuber can place their bids in the auction through this electronic platform.** Core Banking Solutions (CBS) can be defined as a solution that enables banks to offer a multitude of customer-centric services on a 24x7 basis from a single location, supporting retail as well as corporate banking activities. **So, Statement 4 is correct.**

**Q.81) Consider the following statements:**

- 1. Remission of Duties and Taxes on Exported Products (RoDTEP) scheme was recently launched by the Ministry of Finance.
- 2. RoDTEP is a WTO compliant scheme to refund duties and taxes for exporting goods and services.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans B.**

RoDTEP (Refund of Duties and Taxes on Exported Products) is a **flagship export promotion scheme of the Commerce Ministry of India (Not Ministry of finance)**. It replaced the existing MEIS (Merchandise Exports for India Scheme) incentive scheme for exporters. **RoDTEP is going to give a boost to Indian exports by providing a level playing field to domestic industry abroad. So, Statement 1 is not correct.**

It is a **WTO compliant Scheme** and follows the **global principle that the taxes/duties should not be exported**; they should be either exempted or remitted to exporters, to make the good competitive in the global market and Duties/ taxes/ levies, at the Central, State & local level, borne on the exported product, including prior stage cumulative indirect taxes on goods & services used in the production of the exported product. **It has been made effective for the exports from 1st January 2021. So, Statement 2 is correct.**

**Q.82) With reference to the Indian economy, consider the following statements:**

- 1. In recent times, India's sovereign external debt as a percentage of GDP increased compared to sovereign internal debt.
- 2. US dollar-denominated debt remains the largest component of India's external debt, followed by the Indian rupee-denominated debt.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**



From the diagram, we can infer that for the past two years India's sovereign external debt as a percentage of GDP decreased compared to sovereign internal debt, and usually in India, the Internal debt of the Government will be more than the external debt. **So, Statement 1 is not correct.**

The US dollar denominated debt remained the largest component of India's external debt, with a share of 53.2 percent by end-March 2022, followed by debt denominated in the Indian rupee (31.2 percent), SDR (6.6 percent), yen (5.4 percent), and the euro (2.9 percent). **So, Statement 2 is correct.**

**Q.83) Consider the following statements:**

1. Advances in technology and changes in market conditions increase the unemployment rate due to skills becoming obsolete.
2. A rise in unemployment during recession and a reduction when the economy starts recovering.
3. A situation where the marginal product of labour is zero.
4. A situation where unemployment is voluntary in nature and a result of mismatch between labour supply and demand.

**Which of the statements given above best describes Frictional unemployment?**

- (a) 1 and 3 only
- (b) 2 only
- (c) 4 only
- (d) None of the above

**Ans:- Option C**

**Structural unemployment** is a longer-lasting form of unemployment caused by fundamental shifts in an economy and exacerbated by extraneous factors such as technology, competition, and government policy. It occurs because workers lack the requisite job skills or live too far from regions where jobs are available and cannot move closer. Jobs are available, but there is a serious mismatch between what companies need and what workers can offer. **So, Statement 1 is not correct.**

**Cyclical unemployment** is a type of unemployment that is related to cyclical trends in the industry or the business cycle. It is directly related to the macroeconomic situation in the economy. It would rise at a time of recession while reducing when the economy starts recovering. Economic activity tends to move up and down and cannot be classified as linear. **So, Statement 2 is not correct.**

**Disguised unemployment** exists when part of the labor force is either left without work or is working

in a redundant manner such that worker marginal productivity is essentially zero. It is **unemployment that does not affect aggregate output**. An economy demonstrates disguised unemployment when productivity is low and too many workers are filling too few jobs. **So, Statement 3 is not correct.**

**Q.84) Which of the following can result in the depreciation of the domestic currency in comparison to foreign currency?**

1. Excess of imports over exports
2. Excess inflow of Foreign Direct Investment
3. Excess outflow of Foreign Portfolio Investment
4. Purchase of foreign currency by RBI from the domestic banks
5. Signing currency swap agreements with countries that have large foreign currency reserves

**Select the correct answer using the code given below:**

- (a) 2, 4 and 5 only
- (b) 1, 3, 4 and 5 only
- (c) 2 and 5 only
- (d) 1, 3 and 4 only

**Ans:- Option D.**

The inflow of Foreign Direct Investment increases when the **domestic currency is under depreciation due to the lower cost of capital and reduced production cost**. An increase in FDI will increase the demand for domestic currency and raise its exchange rate leading to an appreciation of the domestic currency. **So, Statement 2 is not correct.**

The signing of currency swap agreements between two countries is to hedge the exchange rate risk that may arise over a period of time, so this will not affect the value of the domestic currency, as the countries have agreed in advance to pay the principal amount and interest rate in predetermined rates. **So, Statement 5 is not correct.**

**Q.85) Consider the following statements about the Goods and Services Tax (GST) regime in India:**

1. GST is a value-added taxation system.
2. GST is a destination-based taxation system.
3. All goods and services are now part of the GST system.
4. GST Council has representation from the Centre as well as states, and both have equal weightage while voting to take decisions.

**How many of the statements given above is/are correct?**

- (a) Only one statement
- (b) Only two statements
- (c) Only three statements
- (d) All the statements

**Ans:- Option B**

GST is a **single tax on the supply of goods and services, right from the manufacturer to the consumer**. Credits of input taxes paid at each stage will be available in the subsequent stage of value addition, which makes GST essentially a tax only on value addition at each stage. **The final consumer will thus bear only the GST charged by the last dealer in the supply chain, with set-off benefits at all the previous stages. So, Statement 1 is correct.**

**Destination-based tax or consumption tax is levied where goods and services are consumed.** GST is a destination based tax that will be collected at the state where the goods are sold instead of the manufacturing states. **So, Statement 2 is correct.**

**Goods and services are divided into five different tax slabs for collection of tax: 0%, 5%, 12%, 18% and 28%. But exempt supply under GST means supplies that do not attract goods and service tax like alcoholic liquor for human consumption, electricity and petroleum products -(may notify by GST council later), etc. So, Statement 3 is not correct.**

**Good and Services Tax Council is a constitutional body under Article 279A (1), headed by the Union Finance Minister and has the Union Minister of State for Finance and the Finance Ministers or any other ministers appointed from the state governments as members but the central government's vote counts as one-third of the total votes, while the weightage of the states' total votes is two-thirds. So, Statement 4 is not correct.**

**Q.86) Which of the following are the objectives of Special Economic Zones in India?**

- 1. To promote investment from both foreign and domestic sources
- 2. To create employment opportunities
- 3. It helps to develop infrastructure facilities
- 4. It promotes exports of goods only

**Select the correct answer using the code given below:**

- (a) 2, 3 and 4 only
- (b) 1, 2 and 3 only
- (c) 1, 3 and 4 only

(d) 2 and 3 only

**Ans:- Option B**

**The main objectives of the Special Economic Zones (SEZ) in India:**

- Generation of additional economic activity.
- Promotion of exports of goods and services.
- Promotion of investment from domestic and foreign sources.
- Creation of employment opportunities.
- Development of infrastructure facilities.

**So, option (b) is correct**

**Q.87) Consider the following statements with reference to National Investment Fund (NIF):**

- 1. NIF is a professionally managed fund to provide returns to the Government, without depleting its value.
- 2. Disinvestment proceeds would be credited to the "Consolidated Fund of India".
- 3. Certain portions of NIF can be used for equity infusion in metro projects.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 3 only
- (d) 2 and 3 only

**Ans:- Option C**

Initially, NIF was professionally managed to provide sustainable returns to the Government without depleting its value; But in **2013, Government aligned the NIF with the Disinvestment Policy**, and decided that the disinvestment proceeds will be credited to the existing NIF and the funds would remain there until withdrawn/invested for the approved purposes. **So, Statement 1 is not correct.** The disinvestment proceeds would be credited (existing National Investment Fund) into a '**Public Accounts of India,**' and **NIF was to be maintained outside the Consolidated Fund of India.** Hence, it is not credited to the "Consolidated Fund of India." **So, Statement 2 is not correct.**

**Q.88) Which of the following are the identified thematic areas of the Aspirational Districts Programme of NITI Aayog?**

- 1. Health and Nutrition
- 2. Education
- 3. Agriculture and Water Resources
- 4. Financial Inclusion

5. Skill Development
6. Infrastructure

Select the correct answer using the code given below:

- (a) 1, 2, 5 and 6 only
- (b) 3, 4 and 5 only
- (c) 1, 2, 3, 4 and 6 only
- (d) 1, 2, 3, 4, 5 and 6

Ans:- Option D.

At Government of India level, the programme is anchored by NITI Aayog. It identified thematic areas of the Aspirational Districts Programme based upon composite key indicators as follows,

- Health & Nutrition
- Education
- Agriculture & Water Resources
- Financial Inclusion
- Skill Development
- Basic Infrastructure

So, Option (d) is correct.

Q.89) Consider the following statements:

1. Marine product exports from India faced an all-time high during 2021-22.
2. The United States of America has remained the top destination for seafood export from India in the past decade.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans:- Option C

India is among the top 5 fish exporting countries in the world. About 17% of India's agricultural exports are fish and fish products. Despite the sector's difficult circumstances, India's marine product exports reached an all-time high of US\$ 7,740 million in 2021-22. The Department of Commerce, Government of India, set a target of US\$ 7809 million for this sector for 2021-22, and marine products exports met 99.12% of that objective. In US dollar terms, the observed growth is 30% higher than in 2020-21. Over the last decade, seafood exports' Compound Annual Growth Rate (CAGR) has been 8.23%.

Q.90) Consider the following statements:

1. It is an elusive medium-sized and locally threatened felid species.
2. It was used by India's nobility in the sport of coursing.
3. It is included in Schedule I of the Wild Life (Protection) Act, 1972.
4. Currently, it is on the verge of extinction in India.

The above statements are about which species?

- (a) Asiatic cheetah
- (b) Fishing cat
- (c) Malabar civet
- (d) Asiatic caracal

Ans:- Option D

The Caracal is found in several countries across Africa, the Middle East, Central and South Asia and it flourishes in parts of Africa. But its numbers in Asia are declining. They are widely reported to be on the verge of extinction in India, due to Large-scale hunting, illegal trading and loss of natural habitats are considered significant threats to the species. So, Option (d) is correct.

Q.91) The Government has approved the Modified Interest Subvention scheme for short-term loans for Agriculture and Allied activities. The increase in Interest Subvention will ensure:

1. Sustainability of credit flow in the agriculture sector
2. Financial health and viability of the Regional Rural Banks
3. Generation of employment
4. More farmers to get the benefit of agriculture credit

Select the correct answer from the codes given below:

- (a) 1 and 3 only
- (b) 2 and 4 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3 and 4

Ans:- Option D.

Interest Subvention Scheme (ISS) ensures an increase in Interest Subvention will ensure the sustainability of credit flow in the agriculture sector and ensure the financial health and viability of the lending institutions, especially Regional Rural Banks & Cooperative Banks, ensuring adequate agricultural credit in the rural economy. So, Statements 1 and 2 are correct.

Interest Subvention Scheme (ISS) leads to employment generation since short-term Agri-loans are provided for all activities, including Animal Husbandry, Dairying, Poultry, and fisheries. **So, Statement 3 is correct.**

**Q.92) Consider the following statements with reference to the Export Promotion Capital Goods (EPCG) scheme:**

1. It is a zero-duty scheme available to the exporters of electronic products.
2. It does not allow the import of capital goods for pre-production, production and post-production.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option A**

The Export Promotion Capital Goods Scheme (EPCG Scheme) can be explained as **“Duty-Free (Zero Customs Duty) Import of Capital Goods or Machinery for the manufacture of products meant for Export.”** The Government of India introduced EPCG Scheme to facilitate the Import of Capital Goods/Machinery for producing high-quality goods and services.

**Q.93) National Tiger Conservation Authority has given the green signal to relocate five tigers from three national parks of a state to which one of the following sites?**

- (a) Ranipur Tiger Reserve
- (b) Kaziranga National Park
- (c) Madhav National Park
- (d) RamgarhVishdhari Wildlife Sanctuary

**Ans:- Option C**

The tigers from Panna, Bandhavgarh and Satpura National Parks will be reintroduced in the **Madhav National Park (MNP) of Shivpuri, Madhya Pradesh.** The National Tiger Conservation Authority (NTCA) has approved the **relocation of five tigers from three national parks of the state of Madhya Pradesh to the Madhav National Park.** This move is made to promote more genetic diversity, and to achieve genetic diversity, it is necessary to move them at regular intervals. **The Madhav National Park is situated in the Shivpuri District, Gwalior**

**division in northwest Madhya Pradesh. So, Option (c) is correct.**

**Q.94) National Data and Analytics Platform’ sometimes seen in the news recently, is launched by:**

- (a) National Informatics Centre
- (b) Centre for Development of Advanced Computing
- (c) National Statistical Office
- (d) NITI Aayog

**Ans:- Option D**

The National Data and Analytics Platform (NDAP) is launched by **NITI (NATIONAL INSTITUTION FOR TRANSFORMING INDIA) Aayog to improve access and use of government data.** The Platform aims to democratize access to public government data by making **data accessible, interoperable, interactive, and available on a user-friendly platform.** It hosts foundational datasets from various government agencies, presents them coherently, and provides tools for analytics and visualization. **So, Option (d) is correct**

**Q.95) Consider the following statements with reference to the Electronics System Design and Manufacturing (ESDM) Industry in India:**

1. Currently, India is the largest consumer of electronic products in the world.
2. National Policy on Electronics 2019 aims to facilitate a turnover of US\$ 400 billion in domestic manufacturing by 2025.
3. A present, India is the second largest mobile handsets manufacturer in the world.

**Which of the statements given above is/are correct?**

- (a) 1 and 3 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option C**

India is **one of the largest consumers of electronic products in the Asia-Pacific region.** The third largest start-up hub coupled with strong research & development (R&D) ecosystem. Soon it will be **the fifth-largest consumer of electronic products by only 2025 and thus currently, it is not the world’s largest consumer of electronic products.** **So, Statement 1 is not correct.**

The Indian government's National Policy on Electronics (NPE 2019) aims to facilitate a turnover



of US\$ 400 billion in domestic manufacturing by 2025. The addressable market for domestic Original Equipment Manufacturers is projected to be >Rs. 10 lakh crore (US\$ USD 131.99 billion) by 2025. **So, Statement 2 is correct.**

**Q.96) What are the disadvantages of green hydrogen as a fuel?**

1. Colorless and Odourless fuel, which is light in weight.
2. Highly flammable fuel.
3. Very high energy density, which is about 3 times of hydrocarbons.
4. Hydrogen embrittlement.

**Choose the correct answer from the options below.**

- (a) 1 and 2 only
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1,3 and 4

**Ans:- Option C.**

**The Advantages of Green Hydrogen as a fuel are,**

- 100 % eco-friendly and non-polluting.
- Green hydrogen is easy to store as it is light in weight.
- It has a high energy density.
- It can be transformed into electricity or synthesis gas and has multiple
- It can be mixed with natural gas and transported through the presently available pipelines and gas infrastructures. **So, Statements 1 and 3 are not correct.**

**The Disadvantages of Green Hydrogen as a fuel are as follows,**

- High cost of production.
- Highly volatile and flammable element.
- The production of green hydrogen requires more energy than other fuels.
- The problem of Hydrogen embrittlement. This is the phenomenon in which when the introduction and diffusion of hydrogen take place into the material makes the metals brittle. **So, Statements 2 and 4 are correct.**

**Q.97) With reference to the Coriolis force, consider the following statement:**

1. It is responsible for the formation of meandering in the river.

2. It helps sustain the cyclonic circulation in the Doldrum region.

3. It is maximum at the pole as compared to the equator and inversely proportional to the velocity of the wind.

**Which of the statement given above is/are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 2 only

**Ans:- Option A**

The Baer Babinet law, sometimes called **Baer's law**, identifies a way in which the **process of formation of rivers is influenced by the rotation of the Earth and because of the rotation of the Earth, erosion occurs mostly on the right banks of rivers in the Northern Hemisphere, and in the Southern Hemisphere on the left banks.** Hence in the course of the erosion, an advance of the wave-line of the meander formation is bound to take place in the direction of the current. **So, Statement 1 is correct.**

Doldrums is a **region of low atmospheric pressure between five degrees north and south of the equator.** The Coriolis force of this region is zero and increases with latitude. **Coriolis force at 5° latitude is significant enough to create a storm [cyclonic vortex].** About 65 percent of cyclonic activity occurs between 10° and 20° latitude. **The cyclonic wind movements are anti-clockwise in the northern hemisphere and clockwise in the southern hemisphere, and it is due to the Coriolis force.** Because of zero Coriolis force, the Doldrums region lacks cyclone formation. **So, Statement 2 is not correct.**

The magnitude of Coriolis force is directly proportional to wind speed (velocity). The higher the wind speed, the greater the deflection. **The Coriolis effect is maximum at the poles and zero at the equator.** Coriolis force always acts in a direction that is perpendicular to the moving object's axis. Thus, the coriolis force is not inversely but directly proportional to the velocity of the wind. **So, Statement 3 is not correct.**

**Q.98) Which of the following statements about volcanoes are correct?**

1. Volcanoes are responsible for creating more than 80% of the land mass on Earth's Surface.

2. A volcano that has remained dormant for decades can never become active again.
3. Over the years, volcanic materials have formed the most fertile Earth soil.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans:- Option C.

Volcanoes that are dormant even for a century can become active again. **So, Statement 2 could be eliminated.**

Volcanoes have played a key role in forming and modifying the surface of the planet Earth. **More than eighty percent of the Earth's surface, above and below sea level, is of volcanic origin.** Numerous volcanic eruptions have produced majestic landscapes like mountains, plateaus, and plains. **So, Statement 1 is correct.**

A volcano that has remained dormant even for a century can become active again. It was witnessed in the United States on **March 27, 1980. Mount St. Helens Volcano in the Cascade Range.**

**Q.99) Recent discoveries of ancient rock paintings in Bargur have led to many inferences. Consider the following statements regarding Bargur cave Paintings.**

1. These are found in the forest area of Madhya Pradesh.
2. The paintings are monochrome in fashion with human and animal figurines.
3. These paintings depict the worship of God during ancient times.

Which of the statements given above are not correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans:- Option A

Recently, over **200 prehistoric paintings were identified at a cave in the forest area of Bargur Hills in Erode district of Tamil Nadu.** The painting was spotted in a collapsed cave called Rukkal Muniyappan, where the deity Muneeswar

worshipped by tribal people, is found. **So, Statement 1 is not correct.**

**Paintings are not Monochrome.** It is done using Red Ochre and White rock that is 30 feet high and 250 feet in length and depicts humans and animals such as deer, elephant, tiger, along with other signs and symbols. **So, Statement 2 is not correct.**

In one of its cave, an anthropomorphic painting four feet high can be witnessed which looks similar to the Mother Goddess of megalithic structures that were identified in Tiruvannamalai district of Tamil Nadu. **So, Statement 3 is correct**

**Q.100) Consider the statements regarding Ocean waters:**

1. The continuous flow of large volumes of water in a definite direction is referred to as Waves.
2. Ocean water level is higher near the equator than at the middle latitudes.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans:- Option B

The horizontal and vertical motions are common in ocean water bodies. **Horizontal motion refers to ocean currents and waves. Vertical motion refers to tides.** Ocean currents are the continuous flow of a huge amount of water in a definite direction from one place to another. At the same time, waves are the horizontal motion of water, and there is no movement of water from one place to another. **So, Statement 1 is not correct.**

**Heating by solar energy causes the water to expand (thermal expansion of water). That is why the ocean water is about 8 cm higher near the equator than in the middle latitudes.** This causes a slight gradient, and water flows down the slope. **So, Statement 2 is correct**

**Q.101) Consider the following statements with reference to Black carbon emissions:**

1. Black carbon is the key component of fine (Particulate Matter) PM10 air pollution
2. It is a long-lived climate pollutant with a lifetime of few years
3. Transport account for the most the of global black carbon emissions

4. In India, the Indo-Gangetic plain has a high burden of black carbon

**How many statements given above is/are correct?**

- (a) Only one statement
- (b) Only two statements
- (c) Only three statements
- (d) All four statements

**Ans:- Option A**

Particulate Matter consists of a **complex mixture of solid and liquid particles of organic and inorganic substances suspended in the air**. The pollutants with diameters that are generally 10 micrometers come under PM10 air pollutants and the particles having 2.5 micrometers and smaller are comes under PM2.5

**Black carbon is the black material emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuels**. They may vary in size and can be much smaller than PM2.5. **It is a major contributor to the fine particle (PM2.5) burden in the air and not (PM10)**. **So, Statement 1 is not correct.**

It is a short-lived climate pollutant with a lifetime of only days to weeks after release in the atmosphere. During this short period, black carbon can have significant direct and indirect impacts on the climate, the cryosphere (snow and ice), agriculture, and human health. **So, Statement 2 is not correct.**

Household energy production **contributes the major source of black carbon with 51%**, but the transport category accounts for only about 21% of black carbon emissions by being the second major contributor. **So, Statement 3 is not correct.**

The **Indo-Gangetic plain is spread over North India in Haryana, Delhi, U.P., Bihar, partly Jharkhand, and West Bengal**. These cities are mostly having a large dense population. Because of the large amount of fossil fuel usage, this region has a high burden of Black carbon (BC) with serious implications for regional climate and human health. **So, Statement 4 is correct.**

**Q.102) Consider the following statements:**

- 1. Species richness is a measure of the relative abundance of the species within a community.
- 2. Species abundance is the number of diverse species in an area or a community.

**Which of the statements given above is/are not correct?**

- (a) 1 only

- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option C**

Relative abundance is the measurement of proportion of each species in the ecosystem. It **refers to the evenness of distribution of individuals among species in a community**. Two communities may be equally rich in species but differ in relative abundance. **So, Statement 1 is not correct.**

Species richness **refers to the number of various species in a defined area**. Species richness may be measured by dividing the total number of species by the total area of the defined ecosystem. Unlike species diversity, species richness does not take species abundance into account. **So, Statement 2 is not correct**

**Q.103) Consider the following statements in respect to Dark Fiber:**

- 1. Dark fiber is unused optical fiber that has been laid but is not currently being used in fiber-optic communications.
- 2. It can be installed beneath Land and Ocean.
- 3. It offers secured network flow and separation from other network traffic.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

**Ans:- Option D**

Dark fiber is **unused optical fiber that has been laid but is not currently being used in fibre-optic communications**. Because fibre-optic cable transmits information in the form of light pulses, a "dark" cable refers to one through which light pulses are not being transmitted. **So, Statement 1 is correct.**

Dark fiber networks are not just used for business purposes but can be installed beneath land and oceans. Some interesting use cases of dark fiber include earthquake research and monitoring permafrost. **So, Statement 2 is correct.**

Dark fiber has emerged as a **sustainable solution for various organizations focusing on enhanced communication and network management**. Continuously increasing penetration of internet

services over the period has paved the way for the high demand for internet bandwidth.

**The benefits which can be reaped from it are:**

- High performance
- Secured network flow and separation from other traffic
- Superfast speeds
- Low and Fixed cost
- Reliable medium
- Full control of the fibre-optic network

**So, Statement 3 is correct.**

**Q.104) Consider the following pairs:**

Protected Area	Located in
1. Ranganathittu	Telangana
2. Thinungei	Tripura
3. Kamasandra	Karnataka
4. Nanjarayan	Andhra Pradesh

**How many pairs given above is/are correctly matched?**

- (a) Only one pair
- (b) Only two pairs
- (c) Only three pairs
- (d) All four pairs

**Ans:- Option A**

Thinungei bird sanctuary is the **first bird sanctuary in the state of Manipur**. The sanctuary is located on the western border of Loktak Lake which is a freshwater lake. It has the **highest waterbird population** and species diversity has been recorded from this area during the last decade of the waterbird census in Loktak Lake. **So, Pair 2 is not correct.**

**Kammasandra Wildlife Sanctuary is located in Bangarpete and Malur Taluks of the Kolar District of Karnataka.** It comprises Sorakayalahalli Reserve Forest, Kamasandra (Block-I to IV) Reserve Forests, and Kamasandra (Block-V) Reserve Forest and is spread over an extent of 78.62 km<sup>2</sup>. **It was declared a Wildlife Sanctuary by the Government of Karnataka in 2019.** It is also surrounded by eight villages and it connects to Krishnagiri in Tamil Nadu and Chittoor in Andhra Pradesh. The area also has **historical importance because of the Tri-Junction board erected there during the British Era. So, Pair 3 is correct.**

**Q.105) Which of the following indicates Biomagnification in the environment?**

- 1. Death of vulture due to kidney failure

- 2. Residue of pesticides in the milk of lactating mothers
- 3. Imbalance in calcium metabolism and thinning of eggshells of birds
- 4. Numbness in the feet and hand of human beings due to mercury poisoning

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 1, 2 and 3 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4

**Ans:- Option D.**

All the Statements are correct.

**Q.106) Which of the following statement is correct regarding Blue Blob?**

- (a) It is a warm water patch located in North Atlantic Ocean.
- (b) It is a cold water patch located in North Atlantic Ocean.
- (c) It is a cold water patch located in North Pacific Ocean.
- (d) It is a warm water patch located in South Pacific Ocean.

**Ans:- Option B**

Blue Blob is a **cold patch located south of Iceland and Greenland in North Atlantic Ocean.**

The cold patch was **most prominent during the winter of 2014-2015** when the sea surface temperature was about **1.4 degrees Celsius colder than normal.**

**Q.107) Which countries are located around the Baltic Sea?**

- (a) Norway, Sweden, Finland and Denmark
- (b) Poland, Lithuania, Iceland and Russia
- (c) Iceland, Greenland, Sweden and Finland
- (d) Latvia, Estonia, Russia and Finland

**Ans:- Option D (Refer map)**





**Q.108) Which of the following are the caustic factors of Glacial Lake Outburst Flood?**

1. Changes in the volume of the glacier
2. Changes in the water level of the lake
3. Earthquakes

**Select the correct answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Ans:- Option D.**

A glacial lake outburst flood (GLOF) is a **type of catastrophic flood that occurs when the dam containing a glacial lake fails, releasing a large volume of water.** This type of flood is typically caused by rapid melting of glaciers or the buildup of water in the lake due to heavy precipitation or the inflow of meltwater. These floods can be triggered by a number of factors, including **changes in the volume of the glacier, changes in the water level of the lake, and earthquakes.** Hence, option D is correct

**Q.109) Consider the following statements regarding 'Seismic Waves':**

1. P waves are transverse waves and can travel through solid, liquid, and gas.
2. S Waves are longitudinal waves and can travel only through solid and liquid but not through the gas.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option D**

- P-Waves or the **primary waves are also known as longitudinal or compressional waves.** It can pass through solid, liquid and gas. **Hence, statement 1 is not correct.**
- P-waves travel at the **fastest speed through solid materials.** Though these also pass through liquid and gaseous materials their speed is slowed down.
- S-Waves or **secondary waves are also called transverse or distortional waves.** S- Wave cannot pass through liquid materials. It can only pass through solids. **Hence, statement 2 is not correct.**

**Q.110) Agasthyarkoodam peak is located in which of the following states?**

- (a) Kerala
- (b) Tamil Nadu
- (c) Karnataka
- (d) Andhra Pradesh

**Ans:- Option A**

Agasthyarkoodam is a peak located in the **Western Ghats of India.** It is one of the highest peaks in Kerala and is located in the southern part of the state.

**Q.111) With reference to Immune imprinting, consider the following statements:**

1. Immune imprinting helps the immune system perform better against different strains of coronavirus.
2. Immune imprinting may be responsible for the reduced effectiveness of the coronavirus booster vaccines.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans:- Option B**

The problem occurs when a similar, not identical, variant of the virus is encountered by the body. In such cases, the immune system, rather than generating new B cells, activates memory B cells, which in turn produce "antibodies that bind to features found in both the old and new strains, known as **cross-reactive antibodies.**

Although these **cross-reactive antibodies do offer some protection against the new strain, they aren't as effective as the ones produced by the B cells when the body first came across the original virus. So, Statement 1 is not correct.**

In a study done by the **researchers of the Columbia University Vagelos College of Physicians and Surgeons in New York,** it was observed that the bivalent boosters did not elicit a discernibly superior virus-neutralising peak antibody response as compared with boosting with the original monovalent vaccines across all coronavirus strains tested.

This finding suggests that **immune imprinting might be posing a hurdle in the success of the bivalent or**

variant-specific vaccines. So, Statement 2 is correct.

**Q.112) Consider the following states:**

1. Andhra Pradesh
2. Uttar Pradesh
3. Tamilnadu
4. Karnataka
5. Kerala
6. Uttarakhand

**Which of the above State's names are altered after the adoption of the Constitution?**

- (a) 3, 4 and 5 only
- (b) 2, 3, 4 and 5 only
- (c) 1, 3, 4, 5 and 6 only
- (d) 1, 2, 3, 4, 5 and 6

**Ans:- Option C**

The Constitution of India was adopted by the Constituent Assembly on November 26, 1949, and came into force on January 26, 1950. Hyderabad State (existed from 1948 to 1956) was merged with Andhra state by the States Reorganisation Act and was renamed Andhra Pradesh in 1956. So, Statement 1 is correct.

After independence in 1947, the princely states of Rampur, Banaras (now Varanasi) and Tehri-Garwal were merged into the United Provinces. Later, on January 24, 1950, it was renamed Uttar Pradesh. But the Constitution came into force on January 26, 1950. So, Statement 2 is not correct.

Under the States Reorganization Act of 1956, the Madras state was further divided into Kerala, Mysore and Madras. The Madras state was renamed Tamilnadu on January 14, 1969, and it was officially renamed Tamil Nadu. It was renamed Tamil Nadu by Annadurai's government. Since the renaming needed a Constitutional amendment, both Houses of the Parliament approved the Bill in November and December 1968 respectively. And the State Government later issued a gazette notification to bring the name change into effect on January 14, 1969. So, Statement 3 is correct.

Karnataka was originally known as the State of Mysore, and it was renamed Karnataka through resolution enacted by Parliament on 21 August, 1973, through the Mysore State (Alteration of Name) Act, 1973. So, Statement 4 is correct.

Travancore-Cochin was originally called the United States of Travancore and Cochin and was created on July 1, 1949. On November 1, 1956, Travancore-Cochin was joined with the Malabar District of

Madras State to form the new state of Kerala. So, Statement 5 is correct.

In August 2006, the Union Cabinet nodded to the demands of the people of the state of Uttaranchal to rename it to Uttarakhand after the bill was passed and signed by late President A.P.J. Abdul Kalam in December 2006, it was renamed to Uttarakhand. So, Statement 6 is correct.

**Q.113) 'Phytorid technology', recently in the news, is related to which of the following?**

- (a) It is the latest technology developed for undersea oil exploration.
- (b) It is a carbon capture technology used in heavy industries.
- (c) It is a wastewater recycling technology to reduce water scarcity.
- (d) It is a facial recognition technology for mapping an individual's facial features.

**Ans:- Option C**

Phytorid is a self-sustainable technology for wastewater treatment based on the principle of natural wetlands. It uses certain specific plants that can absorb nutrients directly from wastewater without requiring soil. These plants act as both nutrient sinkers and removers.

Using Phytorid Technology for the treatment of sewage, it is possible and feasible to recover and reuse the treated water for gardening purposes. So, Option (c) is correct.

**Q.114) Which of the following statements are correct about the 'Coral Cryopreservation' technique?**

1. It is the process of preserving coral tissues or gametes at very low temperatures, often using liquid hydrogen.
2. The process helps to reduce the formation of ice crystals in corals when frozen and keeps corals and their cells alive.
3. It may help to prevent the genetic diversity of coral species.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans:- Option B**

Coral cryopreservation is a technique that involves preserving coral tissue or gametes (eggs and sperm) at very low temperatures, often using liquid nitrogen and not liquid hydrogen. **So, Statement 1 is not correct.**

Like all animal cells, coral cells and tissues contain lots of water which, when frozen, forms ice crystals that can cause damage. **Cryopreservation techniques aim to minimize ice crystal formation and keep corals and their cells alive while frozen.** It is done by adding what's known as cryoprotectants, which remove water from the cells while frozen and support cell structures when samples are thawed. **So, Statement 2 is correct.**

The **goal of coral cryopreservation is to maintain the genetic diversity of coral species and to provide a means of propagating coral populations in the future.** It can help ensure these species' long-term survival and the ecosystems they support. **So, Statement 3 is correct**

**Q.115) Recently, the government set up a committee to develop a framework for the Right to Repair. In this context, which of the following statements best explains 'Right to Repair':**

- (a) The Original Equipment Manufacturers (OMEs) Shall repair the defective product
- (b) The manufacturer records the video of repairs made to ensure transparency
- (c) The manufacturer repairs the product at zero cost within the warranty period
- (d) The manufacturers make the spare parts of their products available to the consumers

**Ans:- Option D**

The Department of Consumer Affairs has set up a committee to develop a comprehensive framework on the right to repair. This **framework aims to persuade businesses to make spare parts, tools, and information on how to repair gadgets available to their consumers to increase the lifespan of products** and reduce the cost of repairs for products that are no longer covered by warranties and replacements. Once the framework is rolled out in India, it will **become a game-changer for the sustainability of the products** and serve as a **catalyst for employment generation through Aatmanirbhar Bharat.** **So, Option (d) is correct**

**Q.116) Which of the following Languages are recognized by the Eighth Schedule?**

- 1. English
- 2. Sanskrit

- 3. Kashmiri
- 4. Hindi
- 5. Tulu

**Select the correct answer using the code given below:**

- (a) 3 and 4 only
- (b) 1, 2 and 5 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3, 4 and 5

**Ans:- Option C**

**The Eighth Schedule to the Constitution consists of the following 22 languages: -**

(1) Assamese, (2) Bengali, (3) Gujarati, (4) Hindi, (5) Kannada, (6) Kashmiri, (7) Konkani, (8) Malayalam, (9) Manipuri, (10) Marathi, (11) Nepali, (12) Oriya, (13) Punjabi, (14) Sanskrit, (15) Sindhi, (16) Tamil, (17) Telugu, (18) Urdu (19) Bodo, (20) Santhali, (21) Maithili and (22) Dogri. **So, Option (c) is correct.**

**Tulu is a Dravidian language that is spoken mainly in two coastal districts, Dakshina Kannada and Udupi of Karnataka and Kasaragod district of Kerala. The Tulu speakers, mainly in Karnataka and Kerala, have been requesting the Governments to give it official language status** and include it in the eighth schedule of the Constitution. Hence, Tulu has demanded inclusion in the Eighth Schedule of the Constitution.

**Q.117) Under the Appellate jurisdiction, in which of the following situations automatic appeal to Supreme Court is possible?**

- 1. Civil cases
- 2. Constitutional cases
- 3. Lower court acquitted, but the High court reversed it and sentenced the death penalty
- 4. Lower court acquitted, but the High court reversed it and sentenced the convict to more than 10 years
- 5. Lower court has convicted, but the High Court has reversed it
- 6. Lower court has convicted, which has been confirmed by the high court

**Select the correct answer using the code given below:**

- (a) 1, 4 and 6 only
- (b) 3 and 4 only
- (c) 2, 3 and 5 only
- (d) 1, 2, 3, 4, 5 and 6

**Ans:- Option B**

In Criminal matters, the **Supreme Court hears appeals against the judgment in a criminal proceeding of a High Court if the High Court,**

- Has on appeal reversed an order of acquittal of an accused person and sentenced him to death; or
- Has taken before itself any case from any subordinate court and convicted the accused person and sentenced him to death; or
- Certifies that the case is fit one for an appeal to the Supreme Court. **In the First two cases, an appeal lies to the Supreme Court as a matter of right which means without any certificate of the high court. So, Statement 3 is correct.**

In **1970, the Parliament enlarged the Criminal Appellate jurisdiction of the Supreme Court.** Accordingly, an appeal lies to the Supreme Court from the judgment of a high court if the High Court has, on appeal, reversed an order of acquittal of an accused person and sentenced him to imprisonment for life or for ten years; or Has taken before itself any case from any subordinate court and convicted the accused person and sentenced him to imprisonment for life or for ten years. **So, Statement 4 is correct.**

If a High Court has reversed the order of conviction of a lower court and has ordered the acquittal of the accused, there is no right to an automatic appeal to the Supreme Court. **So, Statement 5 is not correct**

**Q.118) Which of the following are the advantages of COVID vaccine iNCOVACC over other COVID vaccines in India?**

1. It eliminates needle associated risks
2. It reduces biomedical waste
3. It does not require trained healthcare workers
4. It treats Japanese encephalitis also.

**Select the correct answer using the code given below:**

- (a) 1 and 3 only
- (b) 1, 2 and 3 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

**Ans:- Option B**

iNCOVACC is a **recombinant replication-deficient adenovirus vectored vaccine** with a pre-fusion-stabilized SARS-CoV-2 spike protein. **Bharat Biotech's nasal vaccine could be a big boost to India's vaccination programme** as it eliminates needle-associated risks like injuries and infections, and be used as a booster dose and could even "cut into vaccine hesitancy." **So, Statement 1 is correct.**

iNCOVACC did not require syringes, needles, alcohol wipes or bandages, thereby saving procurement, distribution, and storage costs and reducing biomedical waste disposal. **So, Statement 2 is correct.**

**iNCOVACC is given via the nose in two doses taken within an interval of 4 weeks from the first dose.** A total of 8 drops (0.5ml per dose) are administered, 4 drops into each nostril. So, It is easily administered and does not require trained healthcare workers. **So, Statement 3 is correct.**

**Q.119) With reference to the economy, which of the following best describes 'Doom Loop'?**

- (a) It is a long-run pattern of economic growth and recession.
- (b) It is a situation when people are misled by inflation and think that they are getting rich.
- (c) It is the circle of vulnerability where a country's banking system can be severely hurt by volatility in the economy.
- (d) It is a set of business drivers when given persistent effort, begin to propel the business forward.

**Ans:- Option C**

A doom loop is the **circle of vulnerability where a country's banking system can be severely hurt by volatility in the economy.** A country is at risk of a doom loop when a shock to one part of its economic system is amplified by its effect on another.

**Q.120) With reference to Blue bonds and Yellow bonds, consider the following statements:**

1. Blue bonds are debt instruments issued to support investments in oceans and blue economies.
2. Yellow bonds are substitutes for holding physical gold.
3. In India, blue and yellow bonds are issued only by the Reserve Bank of India on behalf of the Government of India.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 only
- (d) 1, 2 and 3

**Ans:- Option A**

A blue bond is a **relatively new form of a sustainability bond, a debt instrument issued to support investments in healthy oceans and blue**



**economies.** In a blue bond, earnings are generated from investments in sustainable blue economy projects. Furthermore, the issuance of a blue bond enables investors to fulfill their corporate social responsibilities and generate benefits for the ocean and humankind. **So, Statement 1 is correct.**

The **Sovereign Gold Bond (SGB)** offers a superior alternative to holding gold in physical form. The risks and costs of storage are eliminated. Investors are assured of the market value of gold at the time of maturity and periodical interest. SGB is free from issues like making charges and purity in the case of gold in jewellery form. The bonds are held in the books of the RBI or demat form, eliminating the risk of loss of scrip etc. **Yellow bonds as new modes of sustainable finance and pertain to solar energy. So, Statement 2 is not correct.**

**Q.121) Consider the following statements regarding the Triple-Dip La Niña phenomenon:**

1. It refers to a decrease of three times the level of normal temperature of water in the Eastern Pacific Ocean.
2. Its cooling influence is temporarily slowing the rise in global temperatures.
3. It negatively affects the Indian monsoon and intensifies droughts in India.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 only
- (d) 1, 2 and 3

**Ans:- Option C**

- A "Triple Dip" means the continuation of La Nina into the third year in a row and has nothing to do with the level of temperatures. **Hence statement 1 is not correct.**
- It is **only the third time since 1950** that there has been a triple-dip La Niña and the **first time in the 21st century.**
- La Nina **refers to the large-scale cooling of ocean surface temperatures in the central and eastern equatorial Pacific Ocean**, coupled with changes in the tropical atmospheric circulation, namely winds, pressure, and rainfall. It usually has the opposite impact on weather and climate as El Niño, which is the warm phase of the so-called El Niño Southern Oscillation (ENSO).
- **La Nina is a natural phenomenon.** But it is taking place against a background of human-induced

climate change, which is increasing global temperatures, making our weather more extreme and affecting seasonal rainfall patterns.

- La Niña is **associated with good rainfall during the Indian monsoon season.** This is the opposite of El Niño which is known to suppress Indian monsoon rainfall. Thus, a **continued spell of La Niña (Tripple-Dip La Nina)** could lead to an expectation of **another year of good, or normal, rainfall during the monsoon. Hence statement 3 is not correct.**

**Q.122) Arrange the following seas according to their salinity levels in decreasing order.**

1. Dead sea
2. Baltic sea
3. Caspian sea
4. Red sea

**Select the correct answer using the code given below.**

- (a) 4-1-2-3
- (b) 1-4-3-2
- (c) 1-3-4-2
- (d) 4-1-3-2

**Ans:- Option B**

Dead Sea: (330 ppt)

- The Dead Sea, located between Israel and Jordan, is the **saltiest body of water in the world with a salinity level or 330,000 ppm, or 330 ppt**, making it nearly 10 times saltier than the world's oceans.
- If the salinity in a body of water changes, it can affect the water's density. **The higher the saline levels, the denser the water.** For example, visitors are often astonished that they can simply float on their backs, without any effort, on the surface of the Dead Sea, due to its high salinity, which creates high water density. Baltic Sea: (7 ppt)
- **The seawater of the Baltic Sea is classed as low-salinity brackish water.** In the surface layers of the Baltic Sea, the average salinity is only seven grams per kilogram of water. By contrast, in the oceans, it is 35 grams per kilogram. Red Sea: (40 ppt). Caspian Sea: (13 ppt)

**Q.123) Consider the following statements regarding sand minerals in India:**

1. Sand is classified as a minor mineral under the Mines and Minerals (Development and Regulation) Act, of 1957.
2. The legal and administrative control of sand is with the Union Ministry of Mines.
3. Sand mining is prohibited during rainy seasons.

Which of the statements given above are correct?

- (a) 1, 2 and 3
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1 and 2 only

Ans:- Option C

Sand is classified as a “minor mineral”, under The Mines and Minerals (Development and Regulations) Act, 1957 (MMDR Act). Under the MMDR Act, the legal and administrative control over minor minerals vests with the State Governments, who have the power to make rules to govern minor minerals. Accordingly, different State Governments have made different rules for awarding, regulating, and administering the sand concessions granted under those rules. Hence, statement 1 is correct and statement 2 is not correct.

Due to the adverse ecological and climatic impacts of relentless and illegal sand mining activities, the National Green Tribunal has directed the Union Environment Ministry not to grant environmental clearance for sand mining each year during the rainy season. Hence, statement 3 is correct

Q.124) In the context of geography, which of the following statements is not correct regarding fronts?

- (a) The higher the temperature difference between two air masses the lower the thickness of the front formed between them.
- (b) Fronts are the typical features of mid-latitudes.
- (c) The weather along a cold front is violent with drop in temperature and heavy showers.
- (d) A warm front moves up to twice as quickly as a cold front.

Ans:- Option D

Cold front moves up twice as quickly as warm fronts and the weather along it is violent. Cold fronts produce sharper changes in weather in a relatively shorter duration (because thupliftment of air is quite rapid) Temperatures can drop more than 15 degrees within the first hour. Hence option (d) is the correct answer.

Frontolysis begins when the warm air mass is completely uplifted by the cold air mass.

Q.125) Which one of the following states/U.T. of India has recorded a population density of less than 1000 as per the census 2011?

- (a) Bihar
- (b) West Bengal
- (c) Uttar Pradesh
- (d) Lakshadweep

Ans:- Option C. (Refer the chart)

State/UT Code	India/State/Union Territory	Density of population (per Sq. Km.)	
		2001	2011
1	INDIA	325	382
01	Jammu & Kashmir	100	124
02	Himachal Pradesh	106	123
03	Punjab	484	551
04	Chandigarh #	7,900	9,288
05	Uttarakhand	150	189
06	Haryana	476	573
07	NCT of Delhi #	9,340	11,320
08	Rajasthan	195	200
09	Uttar Pradesh	690	829
10	Bihar	881	1,106
11	Sikkim	76	86
12	Andhra Pradesh	13	17
13	Nagaland	120	129
14	Manipur	97	115
15	Mizoram	42	52
16	Tripura	305	350
17	Meghalaya	103	132
18	Assam	340	398
19	West Bengal	903	1,028
20	Jharkhand	338	424
21	Odisha	236	270
22	Chhattisgarh	154	189
23	Madhya Pradesh	196	236
24	Gujarat	256	308
25	Daman & Diu #	1,425	2,151
26	D & N Haveli #	449	700
27	Nagaland	315	365
28	Andhra Pradesh	277	308
29	Karnataka	276	329
30	Goa	364	394
31	Lakshadweep #	2,022	2,149
32	Kerala	820	860
33	Tamil Nadu	480	555
34	Puducherry #	1,989	2,547
35	A & N Islands #	43	60