

WEEKLY CURRENT AFFAIRS MAGAZINE for



**C.D.S.**

# OCTOBER-VOL-I-2023

1 October to 7 October



- 
- UPSC/MPSC/NDA/CDS/CAPF/AFCAT
  - PUNE/THANE/DADAR/ANDHERI/KALYAN/  
PCMC/NERUL/BORIVALI/SATARA
  - Offline/Online batches/Video course
  - [www.pioneeracademypace.com/.in](http://www.pioneeracademypace.com/.in)
  - IVR No. – 75060 10635
-

Topic no	Topic Covered	Page No
<b>SCIENCE AND TECHNOLOGY</b>		
1.	WHY BSL3 LAB FOR NIPAH CONFIRMATION IS UNNECESSARY	6
2.	ADITYA L1 ESCAPE EARTH INFLUENCE	7
3.	GENES FUEL ANTIBIOTIC RESISTANCE IN YEMEN CHOLERA EPIDEMIC	8-9
4.	GRANULES INDIA GETS USFDA'S NOD FOR HYPERTENSION GENERIC	9-10
5.	HOW IMPORTANT IS THE FIRST ASTEROID SAMPLE	10-11
6.	KARMAN LINE	11-12
7.	SOUTH EAST ASIA FIRST HIGH SPEED RAILWAY LAUNCH	12
8.	NOBEL PRIZE 2023: KATALIN KARIKO, DREW WEISSMAN AWARDED FOR WORK THAT LED TO EFFECTIVE MRNA VACCINES AGAINST COVID-19	13-15
9.	STORING ENERGY IN BLOCKS: HOW GRAVITY MAY SOLVE GREEN POWER'S PROBLEM	15-16
10.	SECOND ANTI-MALARIA VACCINE FOR CHILDREN APPROVED BY WHO	16-18
11.	2023 NOBEL PRIZE IN PHYSICS: SEEING ELECTRONS IN BRIEF FLASHES OF LIGHT	18-20
12.	ICMR PROJECT TO ACCELERATE CANCER SCREENING AT DISTRICT LEVEL	20
13.	WE WILL REMAIN DEPLOYED IN EASTERN LADAKH UNTIL FULL DISENGAGEMENT: IAF CHIEF	21-23
14.	NOBEL PRIZE FOR MEDICINE/PHYSIOLOGY 2023	23-25
15.	BLUEWALKER 3 SATELLITE OUTSHINES MOST STARS IN THE NIGHT SKY	25-26
16.	NOBEL PRIZE IN CHEMISTRY FOR 2023	26-27
17.	TRAI CAN'T REGULATE OTT PLATFORMS	27-28
<b>INTERNATIONAL RELATION</b>		
18.	KAZAN MEET	28-29
19.	NEED FOR CREATION OF GLOBAL DISPUTE SETTLEMENT	29-30
20.	NEWS-JEWAR AIRPORT, NOIDA GET DXN CODE	30-31
21.	OIL MINISTER PURI URGES OPEC TO REDUCE OIL PRICES	31-33

22.	ARMENIA'S PARLIAMENT VOTES TO JOIN INTERNATIONAL CRIMINAL COURT (ICC)	33-34
23.	CHANGE IN THE MALDIVES	34-35
24.	THE SHUTDOWN OF THE AFGHAN EMBASSY	35
25.	TURKEY DETAINS 1000 FOR ANKARA BLAST	36-37
26.	WHY THE PEACE NOBEL IS AWARDED IN NORWAY WHILE OTHER IN SWEDEN	37-39
27.	COMMONWEALTH OF INDEPENDENT STATES (CIS)	39
28.	LEAST DEVELOPED COUNTRIES SET EXPECTATIONS FOR COP28 WITH DAKAR DECLARATION	39-40
29.	NOBEL PEACE PRIZE	40-41
30.	RUSSIA MAY PULL OUT OF CTBT	41-42
31.	EIGHT YEAR OLD BOY AT THE HEART OF FIGHT OVER MONGOLIAN SPIRITUAL LEADER	43-44
32.	NOBEL PRIZE FOR LITERATURE 2023	44-45
33.	CHOLERA OUTBREAK ACROSS ZIMBABWE	45
<b>ENVIRONMENT</b>		
34.	FIFTH INTERNATIONAL CONFERENCE ON CHEMICALS MANAGEMENT	46
35.	EFFECT OF INVASIVE PLANTS	46-47
36.	THE LARGEST CLIMATE ACTION SUIT AGAINST 32 COUNTRIES	47-48
37.	INDIA HOPES TO ESTABLISH CARBON CREDIT TRADING, VERIFIERS BY 2026	48-49
38.	DAMSELFLY SPECIES FOUND IN WESTERN GHATS NAMED AFTER CLIMATE IMPACT ON INSECTS	49-50
39.	THIS NEWLY DISCOVERED FISH CAN CHANGE ITS COLOUR LIKE A CHAMELEON	50
40.	EVEN PLATYPUSES AREN'T SAFE FROM BUSHFIRES — A NEW DNA STUDY TRACKS THEIR DISAPPEARANCE	51
41.	TWO OF EVERY FIVE AMPHIBIANS THREATENED WITH EXTINCTION, REVEALS STUDY	52-53
42.	INVASIVE PLANT SPECIES THREATEN 66% OF INDIA'S NATURAL SYSTEMS	53-54
43.	CLIMATE FINANCE BEYOND \$100 BILLION: ARE WE CLOSE TO AGREEING ON A NEW CLIMATE FINANCE TARGET?	54-55
44.	MODELLING STUDY SHOWS HOW CONTROVERSIAL GEOENGINEERING MAY AFFECT GLOBAL FOOD PRODUCTION	55-57

45.	SAVE THE CARBON BUBBLE: INDIA'S VOLUNTARY CARBON MARKET MUST BE REGULATED AND MADE TO CONTRIBUTE TO ITS CLIMATE GOALS	57-59
46.	OVER \$9 TRILLION INVESTMENTS IN INFRASTRUCTURE RESILIENCE, NET ZERO NEEDED BY 2050 TO MITIGATE CLIMATE IMPACT: CDRI	59-60
47.	CLIMATE CRISIS IN FORESTS: DANDELI LOSING ITS DISTINCTIVE GRASSES & HORNBILL TO ERRATIC WEATHER	60-61
48.	SCAVENGING HYENAS SAVE CARCASS DISPOSAL COSTS	62-63
<b>ECONOMY</b>		
49.	THE STORY OF MAHATMA GANDHI'S PORTRAIT ON INDIAN BANKNOTES	63-64
50.	ANDHRA PRADESH PLANS TO PROVIDE LEGAL GUARANTEE TO MSP	64-66
51.	OIL FIRMS RAISE ATF AND COMMERCIAL LPG PRICES	66-67
52.	MCA'S NEW PORTAL FOR CHECKING FOR UNCLAIMED SHARES, DIVIDENDS	67-68
53.	TREDS PLATFORMS IN INDIA SEE GOOD GROWTH IN TRANSACTIONS	69-70
54.	UNEMPLOYMENT	70
55.	SEBI EXTENDS TIMELINE FOR VERIFICATION OF MARKET RUMORS BY LISTED ENTITIES	71-72
56.	INDIA AND THE WTO	72-73
57.	RBI SETS WORKING GROUP ON ECL PROVISIONING	74
58.	BIS DESIGNS BITCOIN MONITOR	74-75
59.	MOD RELEASES 5TH POSITIVE INDIGENISATION LIST TO GIVE MORE EXPOSURE TO DOMESTIC INDUSTRY	75-76
60.	RBI FLAGS INFLATION RISK TO STABILITY	76-78
61.	RBI PROPOSES ANONYMISING CARD DETAILS AT THE BANK LEVEL	79-80
62.	CCI OPTS OUT AS COMPETITION AGENCIES GET RANKED GLOBALLY	80-81
63.	RESERVE BANK ONBOARDS 30 MORE BANKS ON UDGAM PORTAL	81-82
<b>POLITY</b>		
64.	HC RULES AGAINST QUOTA IN MINORITY INSTITUTIONS	82-84
65.	BIHAR CASTE SURVEY: HC RULES AGAINST QUOTA IN MINORITY INSTITUTIONS	84-86
66.	CASTE CENSUS AND SURVEY	87-88

67.	MEDIA BODIES SLAM NEWSCLICK SEARCH, CALL IT ATTEMPT TO 'MUZZLE' FREE MEDIA	88-89
68.	EWS RULING MAY HELP CASE FOR BREACHING 50% QUOTA CEILING	90-91
69.	ED CAN REDACT SENSITIVE PORTION FROM DOCUMENTS, RECORDING GROUND FOR ARREST'	91-92
70.	US HOUSE SPEAKER OUSTED AFTER HISTORIC VOTE	92-93
71.	WHEN CAN A BILL BE DESIGNATED AS A 'MONEY BILL'	93-95
72.	ANDHRA PRADESH SEEKS ₹7000 CRORE BORROWING FOR FY 2023-2024	95-97
73.	RIGHTS OF PERSON UNDER ARREST	97-98
<b>GEOGRAPHY</b>		
74.	SCIENTISTS UNCOVER ZEALANDIA	98-99
75.	CLUES TO ANCIENT KOSI SUPERFLOOD SAY IT COULD HAPPEN AGAIN TODAY	99-100
76.	PM ANNOUNCES SETTING UP OF NATIONAL TURMERIC BOARD	100
77.	INDIAN SCIENTISTS DISCOVER ACTIVE SUBMARINE VOLCANO IN ANDAMAN SEA	101-102
78.	CIRCULAR MIGRATION: LOOKING AT BOTH SIDES OF THE DEBATE	102-104
79.	HIRAKUD AND 7 OTHER ODISHA WETLANDS SHOW HIGH LEVELS OF TOXIC HEAVY METALS	105-106
80.	UNITED NATIONS STATISTICAL COMMISSION	106-107
81.	AT LEAST SEVEN DEAD AS GLACIAL LAKE BURSTS IN SIKKIM	108-110
82.	KARNATAKA FACING 'GREEN DROUGHT' SAYS MINISTER	110-111
<b>HISTORY</b>		
83.	FIRST PUBLIC SECTOR CARAVAN PARK IN KERALA TO COME UP AT BEKAL	111-112

## Topic 1. WHY BSL3 LAB FOR NIPAH CONFIRMATION IS UNNECESSARY

*Important for the subject: Science and Technology*

Truenat test for **Nipah virus** faced delayed approval in Kerala. Despite an **emergency use authorization (EUA)** granted in 2021, permission was **only granted after strong demands from Kerala**. Truenat was **developed for pandemic preparedness**.

- The **disagreement between ICMR and WHO** guidelines regarding the **need for BSL-3 facilities for virus confirmation led** to delayed detection due to the insistence on BSL-3 facilities.
- Inactivated samples make **BSL-3 facilities redundant**, allowing **BSL-2 labs to speed up testing**.
- ICMR argues for **BSL-3 for safety reasons**, emphasizing containment protocols.

**What is Biosafety Level:**

- BSL is used to **identify the protective measures needed in a laboratory setting to protect workers, the environment, and the public**.
- Activities and projects conducted in biological laboratories are categorized by biosafety level.
- The **four biosafety levels are BSL-1, BSL-2, BSL-3, and BSL-4**, with BSL-4 being the **highest level of containment**.

**What are different Biosafety Levels:**

- **Biosafety Level 1:** It is applied to the laboratories where the work is carried out with **very low-risk microbes that do not cause any infection in the adults**. One such non-infectious strain is **E.coli**.
- **Biosafety Level 2:** It is applied to the laboratories where **work is carried out with moderately pathogenic organisms**. Agents worked in biosafety level 2 include **HIV, encephalitis virus**.
- **Biosafety Level 3:** The pathogens that can cause **serious health hazards are worked under biosafety level 3**.
- **Biosafety Level 4:** The biosafety level 4 laboratory works with the **microbes Ebola and Marburg virus** that are usually **fatal and have no treatment** or vaccines.

**What are the common requirements in a BSL - 3 laboratory:**

- **Proper personal protective equipment is mandatory**, potentially including respirators.
- Workers typically **need solid-front wraparound gowns, scrub suits, or coveralls**. **Microbial work** must be conducted **within a suitable Biological Safety Cabinet**.
- Facilities should have **hands-free sinks and eyewash stations** near exits. The lab should **maintain directional airflow, drawing air from clean to potentially contaminated areas**.
- **Entrance should be through self-closing locking doors** separate from building corridors. Access to the BSL-3 laboratory is continuously restricted and monitored.

## Topic 2. ADITYA L1 ESCAPE EARTH INFLUENCE

### *Important for the subject: Science and Technology*

India's Aditya-L1 spacecraft, **designed for solar observation**, has successfully moved beyond Earth's influence, headed for the **Sun-Earth Lagrange Point 1 (L1)**, marking ISRO's **second mission outside Earth's sphere** after the Mars Orbiter Mission.

- The spacecraft's journey began with a **Trans-Lagrangian1 Insertion (TL1I)** maneuver on September 19, and it **will reach L1 in January 2024**, aiming to study solar phenomena, space weather, and more **during its five-year mission**.
- Aditya-L1 carries **seven payloads**, including ISRO-developed instruments and academic institute collaborations.

### **What are Lagrangian points:**

- These are **specific locations in space where the gravitational forces of two large bodies, such as the Earth and the Moon or the Earth and the Sun, balance the centrifugal force experienced by a smaller object**, such as a satellite.
- Lagrange points are **named in honor of Italian-French mathematician Joseph-Louis Lagrange**.
- There are **five Lagrangian points, labelled L1 through L5**, in the three-dimensional space surrounding two large bodies in orbit around each other.
- **L1, L2, and L3** are located **on a line that connects the two large bodies** and are **unstable equilibrium points**, meaning an object placed there **will not stay in that position without continuous propulsion**.
- **L4 and L5**, on the other hand, are located at the **third corners of a tetrahedron** formed by the two large bodies and their **barycenter**, and are **stable equilibrium points**, meaning an **object placed there will remain in that position without propulsion**.
- The **L1 point** of the Earth-Sun system **affords an uninterrupted view of the sun** and is currently home to the **Solar and Heliospheric Observatory Satellite (SOHO)**
- The **L2 point in the Earth-Sun system** is a strategic location for **spacecraft like WMAP, Planck, and the James Webb Space Telescope**. It offers **advantages for astronomy**, as it allows for **easy communication with Earth, provides uninterrupted solar power, and offers a clear view of deep space**.
- The **L1 and L2 points** are **unstable on a time scale of approximately 23 days**, which requires satellites orbiting these positions to undergo **regular course and attitude corrections**.
- **Stable orbits at L4 and L5** Lagrange points require a **mass ratio greater than 24.96**, seen in Earth-Sun and Earth-Moon systems, as well as elsewhere in the solar system.
- Objects **found orbiting at the L4 and L5 points** are often called **Trojans** after the three large **asteroids Agamemnon, Achilles and Hector** that orbit in the L4 and L5 points of the **Jupiter-Sun system**.



### Topic 3. GENES FUEL ANTIBIOTIC RESISTANCE IN YEMEN CHOLERA EPIDEMIC

*Important for the subject: Science and Tech*

A study in **Nature Microbiology** reveals that **antibiotic-resistant genes** emerged in **Vibrio cholerae** strains during **Yemen's cholera epidemic in 2018**. A **new plasmid introduced** multiple antibiotic resistance genes, including **macrolides**, widely spreading by **2019**.

- Clinical macrolide use and **genetic exchange likely contributed to multidrug resistance**, highlighting the need for ongoing genomic surveillance in the Yemen cholera outbreak.

**What is antimicrobial resistance (AMR)**

- Antimicrobial Resistance (AMR) is an **ability of a microbe to resist the effects of medication** previously used to treat them. It is also known as **antibiotic resistance**.
- The **WHO defines antimicrobial resistance** as a microorganism's resistance to an antimicrobial drug that was once able to treat an infection by that microorganism. The resistance to **antimicrobials is a natural biological phenomenon**.

**What are some global efforts against AMR:**

- **Global Action Plan on Antimicrobial Resistance (GAP):** Globally, countries committed to the framework set out in the Global Action Plan1 (GAP) 2015 on AMR during the 2015 World Health Assembly and committed to the development and implementation of multi sectoral national action plans.
- **Tripartite Joint Secretariat on Antimicrobial Resistance:** Tripartite joint secretariat i.e **FAO, OIE and WHO** has been established and is **hosted by WHO to drive multi-stakeholder engagement in AMR**.
- **Interagency Coordination Group (IACG) on AMR:** It was convened by the **Secretary-General of the United Nations** after the UN High-Level Meeting on Antimicrobial Resistance in 2016.
- The IACG **brought together partners across the UN, international organizations and individuals** with expertise across human, animal and plant health, as well as the food, animal feed, trade to formulate a plan for the fight against antimicrobial resistance.
- **World Antimicrobial Awareness Week (WAAW):** WAAW was previously called the World Antibiotic Awareness Week. From **2020, it will be called the World Antimicrobial Awareness Week**.
- It is a **global campaign** that aims to raise awareness of antimicrobial resistance worldwide.
- **Global Antimicrobial Resistance and Use Surveillance System (GLASS):** WHO **launched it in 2015** to continue filling knowledge gaps and to inform strategies at all levels.
- GLASS has been **conceived to progressively incorporate data** from surveillance of



AMR in humans, surveillance of the use of antimicrobial medicines, AMR in the food chain and the environment.

- **Global Antibiotic Research and Development Partnership (GARDP):** A joint initiative of WHO and the Drugs for Neglected Diseases Initiative (DNDi), GARDP encourages research and development through public-private partnerships.
- By 2025, the partnership aims to **develop and deliver five new treatments that target drug-resistant bacteria identified by WHO** as posing the greatest threat.

#### Topic 4. GRANULES INDIA GETS USFDA'S NOD FOR HYPERTENSION GENERIC

*Important for the subject: Science and Technology*

Granules India received USFDA approval for its new generic drug, **equivalent to Losartan Potassium and Hydrochlorothiazide Tablets**. It treats **hypertension and stroke risk reduction**, with an annual US market value of around \$73 million.

This marks **Granules' 60th ANDA approval**, including **58 final and 2 tentative approvals from the USFDA**.

**What is Generic Drug:**

- It is a **medication** that has **exactly the same active ingredient** as the brand-name drug and yields the **same therapeutic effect**.
- It is the **same in dosing, safety, strength, quality**, the way it works, the way it is taken, and the way it should be used.
- These similarities help to **demonstrate bioequivalence**, which means that a generic medicine **works in the same way and provides the same clinical benefit** as the brand-name medicine.
- They also have the **same risks and benefits** as their **brand-name counterparts**.
- Generic drugs **do not need** to contain the **same inactive ingredients** as the brand-name product.
- A generic drug **can only be marketed** after the **brand name drug's patent** has expired. Generic drugs are **usually much less expensive than brand-name drugs**.

**What is US FDA:**

- The **United States Food and Drug Administration** is a **federal agency** of the **Department of Health and Human Services**.
- FDA is a **government agency established in 1906** with the passage of the **Federal Food and Drugs Act**.
- The FDA is **responsible for protecting and promoting public health** through the control and supervision of food safety, tobacco products, dietary supplements, prescription and **over-the-counter pharmaceutical drugs, vaccines, biopharmaceuticals, blood transfusions, medical devices, electromagnetic radiation emitting devices (ERED), cosmetics, animal foods & feeds and veterinary products**.
- The FDA **gives approval to regulated products** before they can be **sold in the U.S.**
- FDA has the **power to recall products on the market**, if necessary, for safety and other

reasons.

- The FDA is known for its **work in regulating the development of new drugs**. The FDA has **developed rules regarding the clinical trials** that must be done on all new medications.
- Pharmaceutical companies **must test drugs through four phases of clinical trials before they can be marketed to individuals**.
- The FDA **approves products in the biotech and pharmaceutical industries**, and its approval or rejection of a product can have a financial impact.
- The FDA is **led by the Commissioner of Food and Drugs**, appointed by the President with the advice and consent of the Senate. The Commissioner **reports to the Secretary of Health and Human Services**. The FDA has its **headquarters in unincorporated White Oak, Maryland**.

### Topic 5. HOW IMPORTANT IS THE FIRST ASTEROID SAMPLE

*Important for the subject: Science and Technology*

OSIRIS-REx brought the sample from asteroid Bennu. OSIRIS-REx stands for **Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer**

**OSIRIS-REx is a NASA asteroid-study and sample-return mission.**

- The spacecraft arrived at the asteroid in December 2018 and **orbited for two years, measuring the asteroid’s mass, density, albedo, surface composition and particle environment**. The landing site on Bennu was named: **Nightingale**.

**Some fact about asteroid Bennu:**

- Bennu is a **B-type Near-Earth Asteroid**.
- B-type asteroids are a relatively **uncommon type of carbonaceous asteroid**. Because of its high carbon content, the **asteroid reflects about four per cent of the light** that hits it, which is very low whereas **Earth reflects about 30 percent** of the light.
- There is a **slight possibility that Bennu might strike the Earth** in the next century, between the **years 2175 and 2199**.

**Why this sample is important;**

- These samples carried by the **OSIRIS-REx mission are important** because asteroids such as Bennu can act as a **“time capsule” for our solar system’s earliest history**.
- The asteroid sample **will help researchers learn about how our planet and solar system formed**, as well as the **origin of organics that may have led to life on Earth**.
- Material **has been collected and returned to Earth from comets, asteroids, the solar wind and the Moon**.
- But samples **returned directly from a source can answer many scientific questions that can’t be answered by remote observations**, landers and rovers, or even meteorites fallen to Earth.
- Many **details hidden within a rock** can be lost during a meteorite’s atmospheric entry and impact but are preserved with a returned sample.
- Earlier samples **returned from asteroids Itokawa and Ryugu had been analyzed**, which were the targets of past missions of the Japan Aerospace Exploration Agency

(JAXA).

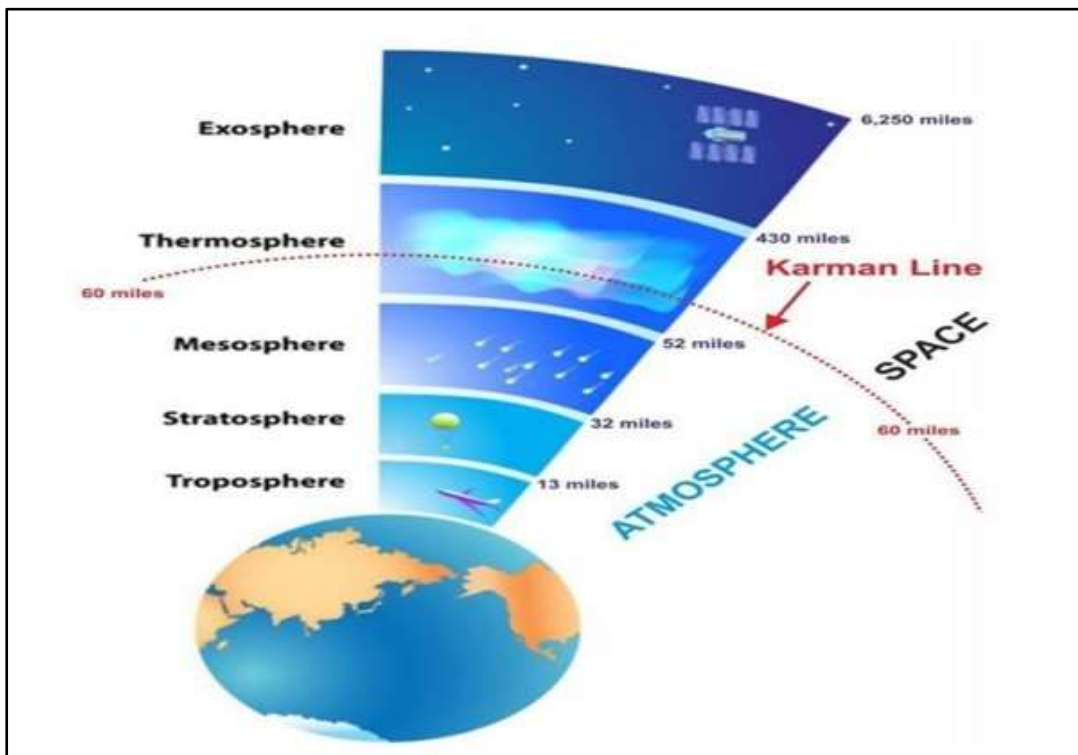
- The **Hayabusa** spacecraft collected evidence of **space weathering on Itokawa**, and **Hayabusa2** found that **Ryugu** is made of **carbon-rich rocks**, known as **carbonaceous chondrites**, that closely trace the Sun's composition. The Ryugu samples revealed that the **few meteorites of the same classification that have fallen to Earth were chemically altered by the journey.**

Some more facts:

- **OSIRIS-REx** was NASA's **third sample return from a deep-space** robotic mission.
- **The Genesis spacecraft** dropped off bits of **solar wind in 2004**, but the samples were compromised when the parachute failed and the capsule slammed into the ground. **The Stardust spacecraft** successfully delivered **comet dust in 2006.**
- The **OSIRIS-REx** spacecraft is already **chasing the asteroid Apophis**, and will reach it **in 2029.**

### Topic 6. KARMAN LINE

*Important for the subject: Science and technology*



The most widely **accepted boundary of space** is known as the Kármán line. The Kármán line is **62 miles above ground** and is recognized by the **Fédération Aéronautique Internationale (FAI)**, a Swiss organization that **sets global rules for air sports.**

- The Karman Line as **originally defined lies between 70 and 90 km**, not at 100 km.
- The Kármán line **has been compared to international waters**, as there are no national boundaries and human laws in force beyond the line. Above this level, there would be free space.

- The line is named after Theodore von Kármán (1881–1963), a Hungarian American engineer and physicist, who was active primarily in aeronautics and astronautics.
- He was the first person to calculate the altitude at which the atmosphere becomes too thin to support aeronautical flight and arrived at 83.6 km himself.
- There is no international law defining the edge of space, and therefore the limit of national airspace.

#### Why do we need a Kármán line:

- The 1967 Outer Space Treaty says that space should be accessible to all countries and can be freely and scientifically investigated.
- Defining a legal boundary of what and where space is can help avoid disputes and keep track of space activities and human space travel.

### Topic 7. SOUTH EAST ASIA FIRST HIGH SPEED RAILWAY LAUNCH

#### *Important for the subject: Science and Technology*

**Indonesian President Joko Widodo** inaugurated Southeast Asia's first high-speed railway connecting Jakarta and Bandung, a project under China's Belt and Road initiative.

Despite delays and cost increases, the \$7.3 billion railway, largely funded by China, will reduce travel time from 3 hours to 40 minutes.

- It's expected to cut carbon emissions and promote efficient mass transportation. Widodo named it "Whoosh" which stands for 'Waktu Hemat, Operasi Optimal, Sistem Handal' and emphasized its modernization and environmental benefits.
- The rail deal was signed in October 2015 after Indonesia selected China over Japan in fierce bidding. It was financed with a loan from the China Development Bank for 75% of the cost. The remaining 25% came from the consortium's own funds.
- The project is part of a planned 750-kilometer (466-mile) high-speed train line that would cut across four provinces on Indonesia's main island of Java and end in the country's second-largest city, Surabaya.
- The project faced disputes but aims to transfer technology to Indonesia for future domestic high-speed train production.

#### Some facts about Mumbai-Ahmedabad High-Speed Rail (MAHSR):

- The plan for the 508km MAHSR corridor was first set into motion in 2013 by then Prime Minister Manmohan Singh during his visit to Japan.
- In 2014, a study was commissioned, and the final report was submitted in July 2015 by the Japan International Cooperation Agency (JICA)

The Union cabinet approved the project in December 2015.

- The Shinkansen high-speed technology will be used in this train. "National High-Speed Rail Corporation Limited", a Special Purpose Vehicle (SPV) has been formed for the implementation of this project. It will connect Gujarat's capital with India's financial capital, Mumbai. It will pass through three districts in Maharashtra, eight in Gujarat and will cut through Dadra and Nagar Haveli.

## Topic 8. NOBEL PRIZE 2023: KATALIN KARIKO, DREW WEISSMAN AWARDED FOR WORK THAT LED TO EFFECTIVE MRNA VACCINES AGAINST COVID-19

*Important for the subject: Science and Technology*

The **2023 Nobel Prize for Medicine** has been jointly awarded to **United States scientists Katalin Kariko and Drew Weissman** for their work concerning “**nucleoside base modifications that enabled the development of effective messenger ribonucleic acid (mRNA) vaccines against COVID-19**”.

**About their contribution in vaccine development:**

- The discoveries and findings by **Kariko and Weissman** fundamentally changed the understanding of **how mRNA interacts with the human immune system**.
- This contributed to the **unprecedented rate of vaccine development during one of the greatest threats to human health in modern times**.

**From the dawn of vaccination till recently, vaccines have been made from:**

- Killed or weakened viruses. Parts of the viral genetic code, usually encoding proteins found on the virus surface, used to make proteins that stimulate the formation of virus-blocking antibodies.
- Parts of the viral genetic code moved to a harmless carrier virus or ‘vector’.

**What are mRNA vaccines and how do they work?**

- **All vaccines introduced into the body a harmless piece of a particular bacteria or virus, triggering an immune response.** Most vaccines contain a **weakened or dead bacteria or virus**.
- However, scientists have developed a **new type of vaccine** that uses a molecule called **messenger RNA (mRNA)** rather than part of an actual bacteria or virus.
- **Messenger RNA is a type of RNA that is necessary for protein production.** Once cells finish making a protein, they quickly break down the mRNA. **mRNA from vaccines does not enter the nucleus and does not alter DNA.**
- **mRNA vaccines** work by introducing a piece of mRNA that corresponds to a viral protein, usually a small piece of a protein found on the virus’s outer membrane. (Individuals who get an mRNA vaccine are not exposed to the virus, nor can they become infected with the virus by the vaccine.)
- By using this **mRNA**, cells can produce the **viral protein**. As part of a normal immune response, **the immune system recognizes that the protein is foreign and produces specialized proteins called antibodies**.
- Antibodies help protect the body against infection by recognizing individual viruses or other pathogens, attaching to them, and marking the pathogens for destruction. Once produced, **antibodies remain in the body**, even after the body has rid itself of the pathogen, **so that the immune system can quickly respond if exposed again**.
- If a person is exposed to a virus after receiving mRNA vaccination for it, antibodies can quickly recognize it, attach to it, and mark it for destruction before it can cause serious illness.



### Need for mRNA based vaccines and challenges in developing them:

- Producing **whole virus-, protein- and vector-based vaccines** requires **large-scale cell culture**, which **limits the possibilities for rapid vaccine production** in response to outbreaks and pandemics.
- **Genetic information** encoded in human DNA is transferred to **messenger RNA (mRNA)** in the body's cells and is used as a template for protein production.
- Scientists were **able to produce mRNA without cell culture in the 1980s**, in a process known as **in vitro transcription**. But there are two challenges associated with it:
- **In vitro transcribed mRNA** was considered **unstable and challenging to deliver**, requiring the development of sophisticated carrier **lipid systems** to encapsulate the mRNA. **In vitro-produced mRNA gave rise to inflammatory reactions.**

### How Kariko and Weissman improved the mRNA vaccine technology?

- **Kariko and Weissman** noticed that **dendritic cells** (which have important functions in **immune surveillance and the activation of vaccine-induced immune responses**) recognize **in vitro transcribed mRNA** as a **foreign substance**, which leads to their activation and the release of inflammatory signaling molecules.
- They wanted to test a hypothesis as to whether the absence of altered bases in the **in vitro transcribed RNA** could explain the **unwanted inflammatory reaction**.
- **RNA** contains **four bases**, abbreviated **A, U, G, and C**, corresponding to **A, T, G, and C** in **DNA**, the letters of the genetic code. They produced **different variants of mRNA**, each with **unique chemical alterations in their bases**, when they delivered it to **dendritic cells** they found that:
- **Inflammatory response was almost abolished when base modifications were included in the mRNA**. And, **It markedly increased protein production compared to unmodified mRNA.**
- After the outbreak of the **COVID-19 pandemic**, **two base-modified mRNA vaccines encoding the SARS-CoV-2 surface protein** were developed at record speed.
- Such vaccines have resulted in **saving millions of lives and prevented severe disease** in many more, allowing societies to open and return to normal conditions.

### About the Nobel Prize:

- The Nobel Prizes are **five separate prizes (Physics, Chemistry, Physiology or Medicine, Literature, and Peace)** that, according to **Alfred Nobel's will of 1895**, are awarded to **“those who, during the preceding year, have conferred the greatest benefit to humankind.”**
- **Nobel characterized the Peace Prize** as **“to the person who has done the most or best to advance fellowship among nations, the abolition or reduction of standing armies, and the establishment and promotion of peace congresses”**.
- In **1968**, **Sveriges Riksbank** (Sweden's central bank) funded the establishment of the Prize in **Economic Sciences in Memory of Alfred Nobel**, to also be administered by the **Nobel Foundation**.
- The prize ceremonies take place **annually at Stockholm, Sweden**, while the **Nobel Peace Prize** is awarded in **Oslo, Norway**. Each recipient (known as a **“laureate”**) receives a **green gold medal plated with 24 karat gold, a diploma, and a monetary award**.
- In **2021**, the **Nobel Prize monetary award was 10,000,000 SEK**. In **2023**, the **monetary award** is set to increase to **11,000,000 SEK**.
- A prize **may not be shared among more than three individuals**, although the Nobel

**Peace Prize can be awarded to organizations of more than three people.**

- Although Nobel Prizes are **not awarded posthumously**, if a person is awarded a prize and dies before receiving it, the prize is presented.
- The **Nobel Prizes**, beginning in **1901**, and the **Nobel Memorial Prize in Economic Sciences**, beginning in **1969**, have been awarded **609 times to 975 people and 25 organisations**. **Five individuals and two organisations** have received **more than one Nobel Prize**.

### Topic 9. STORING ENERGY IN BLOCKS: HOW GRAVITY MAY SOLVE GREEN POWER'S PROBLEM

*Important for the subject: Science and technology*

As countries step up renewable energy capacity addition, there is growing urgency to develop long-duration energy storage systems

**Some facts about Gravity Battery:**

- A Gravity battery is a **type of electricity storage device** that stores gravitational energy, the energy stored in an object resulting from a change in height due to gravity, also called potential energy.
- A gravity battery **works by using excess energy** usually from sustainable sources to raise a mass to generate gravitational potential energy. This is then **lowered to convert potential energy into electricity** through an electric generator.
- The **most common gravity battery** is used in **pumped-storage hydroelectricity (PSH)**, where water is pumped to higher elevations to store energy and released through water turbines to generate electricity.
- Another form of a **gravity battery lowers a mass, such as a block of concrete, to generate electricity**.
- As of 2019, the **total world capacity for PSH is 168 GW (gigawatts)**. The US has 23 GW capacity from PSH, accounting for nearly 2% of the energy supply system and 95% of utility-scale energy storage in the US.
- **Gravity based pumped-storage electricity** is currently the **largest form of grid energy storage in the world**.

**Developments in India in the Field of Gravity Battery Storage Systems:**

- India's push for deployment of **large-scale renewable power** makes storage a prerequisite to support this expansion.
- **Energy Vault** is in the process of establishing a **base in Bengaluru**. It is in talks with **NTPC Ltd** i.e India's biggest generation utility, Mumbai-based **Tata Power** and **green energy company ReNew Power** for collaborations.
- **NTPC had signed an MoU** last year for a long-term strategic partnership for the deployment of **Energy Vault's EVx energy storage technology and software solutions**.

**How Energy Vault's proprietary 'EVx' platform works:**



- Energy Vault’s proprietary ‘EVx’ platform **utilises gravity and a mechanical elevator** system to **stack 35-tonne blocks** made of a composite material at the top of a towering structure.
- **When the electricity demand is low, the elevator uses surplus electricity from the grid or electricity generated by renewable plants**, to raise these blocks and line them up at the top of the structure.
- When electricity demand picks up, the blocks are then lowered one by one, releasing **kinetic energy that is used to rotate a motor and generate electricity**, which can then be **pumped back to the grid**.

### Topic 10. SECOND ANTI-MALARIA VACCINE FOR CHILDREN APPROVED BY WHO

*Important for the subject: Science and technology*

The **World Health Organization (WHO)** on October 2, 2023, approved a **second anti-malaria vaccine for children**. The vaccine has been developed by the **University of Oxford** in the **United Kingdom**.

**About the Malaria vaccine:**

**Vaccine name: R21/Matrix-M vaccine.**

- It will be rolled out in **Burkina Faso, Ghana and Nigeria** in early 2024. And then other African countries by the end of 2024. The **first vaccine** approved by **WHO** in **2021** was **RTS, S/AS01 vaccine**.
- **WHO** has given its approval to the vaccine on the advice of **two expert groups: Strategic Advisory Group of Experts on Immunization (SAGE) and the Malaria Policy Advisory Group**.
- Both vaccines are shown to be safe and effective in **preventing malaria in children** and are expected to have high public health impact.
- **WHO** also recommended **Takeda Pharmaceuticals’ vaccine** against **dengue** for **children aged six to 16** living in areas where the infection is a significant public health problem.
- **SAGE** also recommended that **all countries in the African “meningitis belt”** introduce what it described as **(Men5CV)** into their **routine immunisation programmes**. A single dose scheduled at nine to 18 months of age should fight the disease.

**Malaria:**

**25 April: World Malaria Day**

- **Malaria** is a **life-threatening disease** caused by **parasites** that are transmitted to people through the bites of **infected female Anopheles mosquitoes**.
- It is preventable and curable. There are **5 parasite species** that cause malaria in humans, and **2 of these species – Plasmodium falciparum and Plasmodium vivax** – pose the greatest threat.
- There were an **estimated 247 million cases of malaria in 2021**, and the estimated number of malaria deaths stood at **619 000**.

- The **WHO African Region** carries a **disproportionately high share** of the global malaria burden. In **2020**, the region was home to **95%** and **96%** of **malaria cases** and **deaths**, respectively.
- **Children under 5 years of age** are the **most vulnerable group** affected by **malaria**; in **2021**, they accounted for nearly **80%** of **all malaria deaths** in the **WHO African Region**.

#### IA2030:

- The **World Health Assembly**, with the support of countries and partners, has endorsed a **new global vision and strategy**, called the **Immunization Agenda 2030 (IA2030)**, to address these challenges over the next decade and save over 50 million lives.
- **IA2030** envisions a world where everyone, everywhere, at every age, fully benefits from vaccines to improve health and well-being. It **aims** to maintain hard-won gains in immunization, recover from the disruptions caused by COVID-19, and achieve even more – by leaving no one behind, in any situation or at any stage of life.

#### Strategic Advisory Group of Experts on Immunization (SAGE):

- The **SAGE** was established by the **Director-General of the World Health Organization** in **1999** to provide guidance on the work of **WHO**.
- **SAGE** is the **principal advisory group to WHO for vaccines and immunization**. It is charged with advising WHO on overall global policies and strategies, ranging from vaccines and technology, research and development, to delivery of immunization and its linkages with other health interventions.
- **SAGE** is concerned not just with childhood vaccines and immunization, but **all vaccine-preventable diseases**.
- **SAGE** meets at least **twice a year**, with working groups established for detailed review of specific topics prior to discussion by the full group. Priorities of work and meeting agendas are developed by the Group in consultation with WHO.
- **UNICEF, the Secretariat of the GAVI Alliance, and WHO Regional Offices** participate as observers in SAGE meetings and deliberations.

#### Global Vaccine Alliance for Vaccine and Immunization (GAVI):

- **GAVI** was set up as a **Global Health Partnership** in **2000** with the goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.
- **GAVI aims** at accelerating access to vaccines, strengthening countries' health and immunization systems, and introducing innovative new immunization technology.
- Since **GAVI's** inception, it has subsequently supported the immunization of an additional **326 million children** and prevented a potential **5.5 million deaths**.
- While the Gavi Secretariat oversees the day-to-day operations of the Vaccine Alliance, the Board is responsible for giving strategic direction and policy-making.
- The **Board has 18 "representative" seats, 9 seats** for independent or "unaffiliated" individuals, and one seat for Gavi's CEO.
- **UNICEF, WHO, the World Bank, and the Bill & Melinda Gates Foundation** hold permanent seats. Constituency representatives serve on a time-limited basis.
- **Independent Board members** are private individuals with no professional connection to Gavi's work. They bring independent and balanced scrutiny to all of the Board's deliberations.

- These individuals also provide expertise in a number of critical areas such as investment, auditing, and fundraising.
- **Two-thirds of the voting members of the Board are representatives from key Vaccine Alliance partner institutions and stakeholders** (each such representative a “representative Board member”) and one-third of its voting members are independent (or unaffiliated) individuals who are appointed in their personal capacity on the basis of their skills and networks.

### **Topic 11. 2023 NOBEL PRIZE IN PHYSICS: SEEING ELECTRONS IN BRIEF FLASHES OF LIGHT**

#### *Important for the subject: Science and Technology*

The **2023 Nobel Prize for Physics** was shared by **three scientists—Pierre Agostini, Ferenc Krausz and Anne L’Huillier**—for their “**experimental methods that generate attosecond pulses for the study of electron dynamics in matter.**”

#### **Attosecond:**

- An **attosecond** (symbol as) is a **unit of time in the International System of Units (SI) equal to  $1 \times 10^{-18}$  of a second** (one quintillionth of a second).
- For comparison, **an attosecond is to a second what a second is to about 31.71 billion years. An attosecond is equal to 1000 zeptoseconds, or 1/1000 of a femtosecond.**

#### **Attophysics:**

- **Attosecond physics**, also known as **attophysics**, is a branch of physics that deals with **light-matter interaction phenomena** wherein **attosecond ( $10^{-18}$  s)** photon pulses are used to unravel dynamical processes in matter with unprecedented time resolution.
- **Attosecond physics** gives us the opportunity to understand mechanisms that are governed by **electrons**.
- Their experiments have allowed scientists to **produce ultra-short pulses of light**, with which they can finally ‘**see**’ **directly into the super-fast world of electrons**.

#### **Why electrons weren’t ‘seen’ before:**

- Electrons which are negatively charged particles of an atom, move very fast in the nucleus of an atom. To see the sharper and clear movement of electrons we need a camera with **exposure time to the order of attoseconds**.

#### **How fast is electron dynamics?**

- The movement of an atom in a molecule can be studied with the **very shortest pulses produced by a laser**. These movements and changes in the atoms occur on the order of **femtoseconds**—a millionth of a billionth of a second. But **electrons are lighter and interact faster, in the attosecond realm**.

- All light consists of waves of electric and magnetic energy. Each wave has a sinusoidal

shape—starting from a point, going up to a peak, dipping into a trough, and finally getting back to the same level as the starting point.

- By the **1980s** scientists produced **light pulses whose duration was a few femtoseconds**. But seeing electrons required an **even shorter flash of light** and scientists were unable to produce a pulse of light shorter than a femtosecond.

#### How can even shorter pulse be created?

- In **1987**, **Anne L'Huillier** and her colleagues noticed the '**overtones**' (waves of light whose wavelength was an integer fraction of the beam) after passing an infrared laser beam through a noble gas.

#### How is an attosecond pulse created?

- Physicists found that the **overtones** emitted were in the form of **ultraviolet light**. As multiple overtones were created in the gas, they began to interact with each other.
- When the **peak of one overtone merges with the peak of another, they produce an overtone of greater intensity**, through **constructive interference**. But **when the peak of an overtone merges with the trough of another**, they cancel each other out, in **destructive interference**.
- Scientists realized that it should be possible to **create intense pulses of light** each a few **attoseconds long** (due to **constructive interference**), with **destructive interference** ensuring that they didn't last for longer.
- In **2001**, **Pierre Agostini** and his research group in **France** successfully produced and investigated a series of **250-attosecond light pulses, or a pulse train**.
- In the same year, **Ferenc Krausz** and his team in **Austria** developed a **technique to separate an individual 650-attosecond pulse from a pulse train**.
- Using that, the researchers were able to **measure the energy of some electrons released by some krypton atoms**.

#### What are the applications of attosecond physics?

- It allows scientists to capture 'images' of activities that happen in incredibly short time spans.

- Scientists can use such pulses to **explore short-lived atomic and molecular processes** implicated in fields like **materials science, electronics, and catalysis**.
- For **medical diagnostics**, **attosecond pulses** can be used to check for the presence of certain molecules based on their fleeting signatures. These pulses could also be used to **develop faster electronic devices**, and better **telecommunications, imaging, and spectroscopy**.

### Topic 12. ICMR PROJECT TO ACCELERATE CANCER SCREENING AT DISTRICT LEVEL

*Important for the subject: Science and Tech*

**Indian Council of Medical Research (ICMR)** has invited Expressions of Interest on the implementation of research to **accelerate cancer screening, early diagnosis, and treatment**.

**ICMR project:**

- **ICMR** plans to **engage non-specialist physicians** and other health care workers within a supportive healthcare system for the **screening of cancer as well as pre-cancerous conditions**.
- This will be a **four year project**, including six months for preparatory activities and another six months for analysis and interpretation. It will also include formative, implementation, and evaluation phases.
- The **involvement of local communities is key** to encourage the target population to undergo screening for early diagnosis and treatment.

**Key role for ASHA workers:**

- Research has indicated that **frontline health workers**, such as **Accredited Social Health Activists (ASHAs)**, have the potential to play a crucial role in promoting and conducting home-based cancer screening. **Home screening** has resulted in higher compliance rates because it offers the **privacy and convenience** necessary for individuals to participate actively in the screening process.

**Cancer status in India:**

- **India** currently ranks **third** in cancer incidence after **China** and the **United States**.
- According to **Global Cancer Observatory projections**, **India** is expected to witness a substantial **57.5% increase** in cancer cases between 2020 and 2040.
- The estimated number of incident cases of cancer in **India** for the year **2022** was found to be **14,61,427 (crude rate: 100.4 per 100,000)**.
- In **India**, **one in nine people** are likely to develop cancer in his/her lifetime. **Lung and breast cancers** were the leading sites of cancer in males and females, respectively. Among **childhood (0-14 yr) cancers**, **lymphoid leukaemia** (boys: 29.2% and girls: 24.2%) was the leading site.
- The incidence of cancer cases is estimated to **increase by 12.8 per cent in 2025 as compared to 2020**.

**Topic 13. WE WILL REMAIN DEPLOYED IN EASTERN LADAKH UNTIL FULL DISENGAGEMENT: IAF CHIEF**

*Important for the subject : Science and technology*

The **Indian Air Force (IAF)** is looking at procuring **97 additional indigenous Light Combat Aircraft (LCA)-Mk1A fighter jets** at an estimated cost of **₹1.15 lakh crore**, Air Chief Marshal **V. R. Chaudhari** said.

The procurement will take the **LCA-MK1A** fleet strength to **180**. IAF carried out **Operation Kaveri** to evacuate Indian citizens from **Sudan**, **Operation Dost** to aid **Türkiye** and **Syria**.

**Disengagement in Ladakh region:**

- Since the stand-off in eastern Ladakh, **India** and **China** have undertaken **disengagement from five friction points**, while negotiations are stuck over **two points** — **Depsang Plains** and **Demchok**.

**Defense equipments in news:**

Defense equipments	Description
1. Akash-NG	<ul style="list-style-type: none"> <li>• Akash – New generation or Akash-NG is a medium-range mobile surface-to-air missile defense system developed by the Defence Research and Development Organisation (DRDO) and produced by Bharat Dynamics Limited and Bharat Electronics. Private sector firm Electropneumatics and Hydraulics India is involved in Development cum Production Partner programme.</li> <li>• This missile is a successor to the Akash and Akash-1S series of missiles with improvements such as a Dual-pulse solid rocket motor, a canisterised launcher and an AESA Multifunction targeting radar to improve its probability of kill with a smaller ground operations and logistics footprint.</li> </ul>



<p>2. Pralay missile</p>	<ul style="list-style-type: none"> <li>• Pralay is a canisterised Tactical, surface-to-surface, short-range ballistic missile (SRBM) for Battlefield use Developed by the Defence Research and Development Organisation (DRDO) of India.</li> <li>• The Missile is an Amalgamation of Technologies Developed for exoatmospheric interceptor Missile Prithvi Defence Vehicle (PDV) from Indian Ballistic Missile Defence Programme andPrahaar tactical Missile.</li> <li>• The Project to Develop Pralay was Sanctioned in March 2015.</li> </ul>
<p>3. LCA Tejas</p>	<ul style="list-style-type: none"> <li>• LCA Tejas is a 4.5 generation, all weather and multi-role fighter aircraft. The aircraft is designed to be a multi-role aircraft capable of taking up offensive air support, close combat and ground attack role at ease. It is also designed to undertake Ground Maritime Operations.</li> </ul> <p>The different variants of aircraft under production and development are:</p> <ul style="list-style-type: none"> <li>• Single seater fighter for Air Force</li> <li>• Single seater fighter for Navy</li> <li>• Twin Seater trainer aircraft for Air Force</li> <li>• Twin Seater trainer version for Navy</li> </ul>
<p>4. LCA MK1A</p>	<ul style="list-style-type: none"> <li>• LCA Mk1A is the most advanced version of the LCA Tejas.</li> <li>• It is equipped with AESA Radar, EW suite consisting of radar warning and self-protection jamming, Digital Map Generator (DMG),Smart Multi-function Displays (SMFD), Combined Interrogator and Transponder (CIT), Advanced Radio Altimeter and other advances features.</li> </ul>
<p>5. Long range mountain radar</p>	<ul style="list-style-type: none"> <li>• The Swathi weapon locating radar is a mobile artillery-locating, phased array radar developed by India. This counter-battery radar is designed to detect and track incoming artillery and rocket fire to determine the point of origin for counter-battery fire.</li> <li>• The WLR has been jointly developed by the Electronics and Radar Development Establishment (LRDE), a lab of the Defence Research and Development Organisation (DRDO) and Bharat Electronics Limited (BEL).</li> </ul>

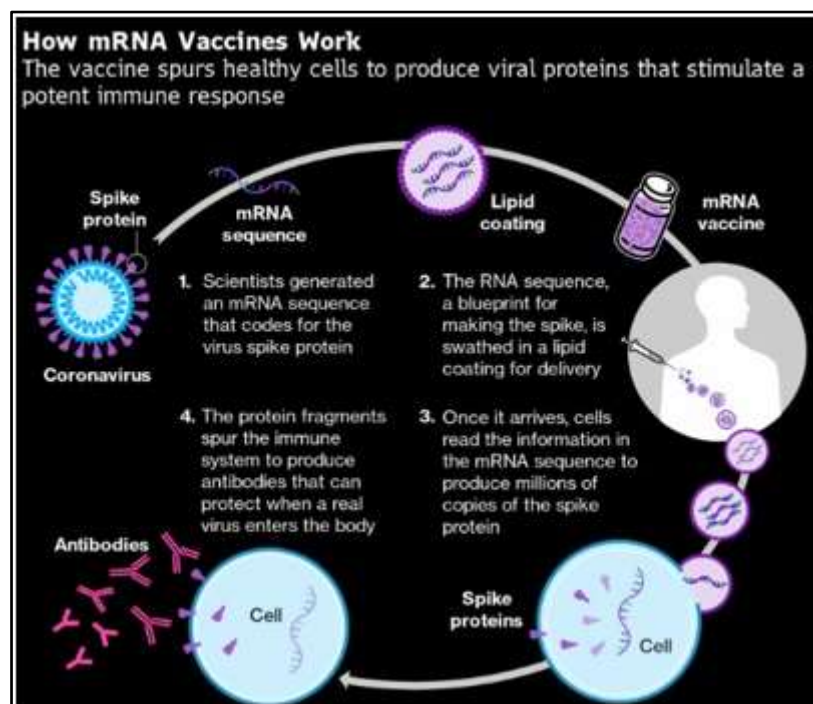


6. JF-17 fighter aircraft

- The CAC/PAC JF-17 Thunder or FC-1 Xiaolong is a lightweight, single-engine, multi-role combat aircraft developed jointly by the Chengdu Aircraft Corporation (CAC) of China and the Pakistan Aeronautical Complex (PAC).
- It was designed to replace the A-5C, F-7P/PG, Mirage III, and Mirage V combat aircraft in the Pakistan Air Force (PAF).
- The JF-17 can be used for multiple roles, including interception, ground attack, anti-ship, and aerial reconnaissance.

### Topic 14. NOBEL PRIZE FOR MEDICINE/PHYSIOLOGY 2023

*Important for the subject: Science and Technology*



The 2023 Nobel Prize in Physiology or Medicine has gone to scientists Katalin Kariko and Drew Weissman, whose work enabled the development of mRNA vaccines against Covid-19 in record time.

#### **Karikó and Weissman's Contribution:**

- Katalin Karikó and Drew Weissman made significant contributions to the development of

mRNA vaccines:

- They recognized that lab-grown genetically engineered mRNA was seen as foreign by the body's dendritic cells, leading to an unwanted inflammatory response.
- To address this, they introduced chemical modifications to the mRNA bases to mimic the altered bases found in RNA from mammalian cells. This greatly reduced the inflammatory response.
- Their findings, published in 2005, paved the way for mRNA vaccine development. Moderna and Pfizer used this technology to develop Covid-19 vaccines.

### **About mRNA Vaccines and their Working:**

- mRNA stands for messenger RNA, a molecule that carries genetic information from DNA to the protein-making machinery of the cell.
- mRNA vaccines use synthetic mRNA that encodes a specific protein from a pathogen, such as the spike protein of the coronavirus.
- When the mRNA vaccine is injected into the body, some of the cells take up the mRNA and use it to produce the protein.
- The protein then triggers an immune response that produces antibodies and memory cells that can recognize and fight the pathogen in the future.
- mRNA vaccines are faster and cheaper to produce, as they do not require cell culture or complex purification processes.
- mRNA vaccines are also more flexible and adaptable, as they can be easily modified to target new variants or strains of pathogens.
- Corbevax is a RBD-protein subunit vaccine. This vaccine uses a recombinant protein platform that targets spike protein on the virus. The vaccine injects a volume of cloned spike proteins, instead of instructing cells to replicate it. It reduces the virus' ability to cause any serious diseases

### **COVAX**

- COVID-19 Vaccines Global Access or COVAX is a global initiative aimed at equitable access to COVID-19 vaccines led by the Global Alliance for Vaccines and Immunization (GAVI), the World Health Organization (WHO), the Coalition for Epidemic Preparedness

Innovations (CEPI), and others.

- It is one of the three pillars of the Access to COVID-19 Tools Accelerator, an initiative begun in April 2020 by the World Health Organization (WHO), the European Commission, and the government of France as a response to the COVID-19 pandemic.
- COVAX aims to coordinate international resources to enable the equitable access of COVID-19 diagnostics, treatments, and COVID-19 vaccines. It aims for people in all corners of the world to get access to Covid-19 vaccines once they are available, regardless of their wealth.
- The COVAX facility continually monitors the Covid-19 vaccine landscape to identify the most suitable vaccine candidates, based on scientific merit and scalability, and works with manufacturers to incentivize them (Ex- Serum Institute of India has received funds from Gavi, the Vaccine Alliance and the Bill and Melinda Gates Foundation).

### Topic 15. BLUEWALKER 3 SATELLITE OUTSHINES MOST STARS IN THE NIGHT SKY

*Important for the subject : Science and technology*



An international team of scientists, including those from Imperial College London, have published a paper in Nature journal, detailing the impact of the prototype **BlueWalker 3 satellite** on astronomy.

**BlueWalker3 satellite:**

- The **BlueWalker 3** is a **prototype satellite**, part of a satellite constellation planned by its owner **AST Space Mobile**, intended to deliver mobile or broadband services anywhere in the world.
- **BlueWalker 3** is **AST Space Mobile's prototype satellite** and is designed to operate directly with standard, unmodified mobile devices. The spacecraft was built with an aperture of 693 square feet to **establish connectivity directly with cell phones via 3GPP-standard frequencies.**

**Why is it a cause of concern?**

- **Finding:** Observations of the **Blue Walker 3** showed **it was one of the brightest objects**

**in the night sky**, outshining all but the brightest stars.

**Concern:**

- Potential to disrupt **night sky** observations by astronomers. And mitigating against the brightness is difficult beyond masking their position and losing data for that portion of the sky.
- The **night sky** is a unique laboratory that allows scientists to conduct experiments that cannot be done in terrestrial laboratories.
- Because the Blue Walker 3 uses wavelengths close to those that radio telescopes observe in, the satellite could also hamper radio astronomy.

**Topic 16. NOBEL PRIZE IN CHEMISTRY FOR 2023**

**Important for the subject :Science and technology**

The Nobel Prize in Chemistry for 2023 has been conferred upon Mounqi G. Bawendi, Louis E. Brus, and Alexei I. Ekimov for their groundbreaking work on quantum dots.

**Contributions of Nobel Laureates**

- Louis E. Brus and Alexei I. Ekimov, in the early 1980s, independently created quantum dots, demonstrating the significance of quantum effects in nanoparticle behavior.
- Mounqi G. Bawendi revolutionized quantum dot manufacturing methods in 1993, ensuring high-quality production, a crucial requirement for nanotechnology applications.

**About Quantum Dots**

- Quantum dots are **nanoparticles** with unique properties, whose characteristics are governed by **quantum effects**.
- They emit **clear light** and are used in **television screens, LED lamps, and medical applications**.
- Their applications range from catalyzing chemical reactions to illuminating tumor tissue for surgical procedures.

**Applications of Q-Dots**

- Quantum dots are considered to bring significant benefits to humankind, with their potential applications still being explored.
- These tiny particles could revolutionize fields such as electronics, healthcare, and quantum communication.
- Quantum dots are now an essential tool in the field of nanotechnology. They have been instrumental in creating colored light and are envisioned to play a role in flexible electronics, sensors, thin solar cells, and encrypted quantum communication.
- **QLED TVs** are capable of emitting all colours depending on their size. Thus QLED TVs provide high-definition, brighter and more colorful displays.
- Quantum dots exhibit specific opto-electronic properties. They can be used for fluorescence imaging where quantum dots are injected in the body which

when **encounters a cancer cell** attaches to it.

- When you shine a light of certain frequency it lights up and doctors can exactly target these cells. Q-dots are used in **solar cells** with higher efficiency.
- In **bio-sensors**, Q-dot sensors can detect the presence of pathogens in food or water, or monitor the levels of pollutants in the environment. In **biomedical imaging**, Q-dot can revolutionise fluorescence imaging, MRI, and CT scans with its high sensitivity.

### Topic 17. TRAI CAN'T REGULATE OTT PLATFORMS

*Important for the subject: Science and Technology*

TRAI can't regulate OTT platforms like Hotstar, says tribunal.

The Telecom Disputes Settlement and Appellate Tribunal (TDSAT) in India ruled that **Over the Top (OTT) platforms** like Hotstar **fall outside the jurisdiction** of the Telecom Regulatory Authority of India (TRAI) and are **instead governed by the Information Technology Rules, 2021**.

- This **decision came in response** to a petition by the **All India Digital Cable Federation (AIDCF)** claiming that free streaming of ICC Cricket World Cup matches on Disney+Hotstar was **discriminatory under TRAI regulations**.
- TDSAT's rejection of AIDCF's plea is **significant** as it **intersects with ongoing efforts** by TRAI and the **Department of Telecommunications to regulate OTT services**.

**What is the Significance of this order:**

- TDSAT's rejection of the plea has **broader implications** in the ongoing debate over the regulation of OTT services.
- At the heart of the matter is the **clash between the TRAI and the Ministry of Electronics and Information Technology** over who should oversee these platforms.
- The Department of Telecommunications (DoT) had **proposed a draft telecom Bill classifying OTT platforms** as telecommunications services and seeking to regulate them like telecom operators.
- TRAI, on the other hand, **issued a consultation paper on regulating OTT platforms**. This difference in approach has led to a **contentious disagreement between two key government bodies**.

**Why is the IT Ministry disagreeing with DoT over OTT regulation:**

- The IT Ministry believes that under the **Allocation of Business Rules, Internet-based communications services are not part of DoT's jurisdiction**.
- However, in this case, the conversation is **centered around OTT communications services like WhatsApp**.
- Time and again, **MeitY made it clear that the DoT can only regulate the carriage layer, that is telephony, wireless communications, and private sector licenses, etc.**

**What is TRAI's attempt at regulating OTT services:**



- After **initially opposing** specific regulations for **OTT communication** services like **WhatsApp and Zoom**, TRAI has begun consultations on potential regulations for these services.
- In June, it sought **input on regulating them**, including the **possibility of selective bans rather than total shutdowns**.
- Telecom operators have **long advocated for consistent rules**. In **September 2020**, **TRAI recommended against immediate regulation** but suggested monitoring and intervention when deemed appropriate.

#### **What is Telecom Regulatory Authority of India (TRAI):**

- The Telecom Regulatory Authority of India (TRAI) was **established in 1997 by the Telecom Regulatory Authority of India Act, 1997**.
- The **head office** of the Telecom Regulatory Authority of India (TRAI) is located at **New Delhi**.
- The TRAI consists of a **Chairperson, two whole-time members and two part-time members**, all of which are appointed by the Government of India.

#### **What is the power of TRAI**

- It can **call upon any service provider to furnish** in writing the information or explanation relating to its **affairs as the Authority** may require.
- The Authority **may appoint one or more persons** to make an inquiry in relation to the affairs of any service provider. It is **empowered to direct** any of its **officers or employees to inspect the books of accounts** or other documents of any service provider.
- The Authority shall have the **power to issue such directions to service providers as it may consider necessary for proper functioning by service providers**.

#### **What is Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT):**

- The **TRAI Act was amended** by an ordinance, establishing a Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT) to **take over the adjudicatory and disputes functions from TRAI**.

**TDSAT was set up to adjudicate any dispute –**

- **Between a licensor and a licensee, Between two or more service providers, Between a service provider and a group of consumers, and To hear and dispose of appeals against any direction, decision or order of TRAI.**

### **Topic 18. KAZAN MEET**

#### ***Important for the subject: International Relations***

Kazan meet makes no headway on equal rights in Afghanistan. India participated in the **Moscow Format meeting on Afghanistan** in the **Russian city of Kazan**, and was represented by the Ambassador to **Russia, Pavan Kapoor, as the special envoy**

- India expressed concern over the security situation due to increased terrorist activities, especially by **ISIS**.
- “Moscow Format” meeting included the **Taliban’s Acting Foreign Minister as an**

invitee along with **Special envoys from Pakistan, Russia, China, Iran, and Central Asian states with Saudi Arabia, Qatar, the UAE, and Turkiye as guests.**

- The meeting commended Afghanistan's **efforts against ISIS** but called for **action against all terrorist groups.**
- The meeting **appreciated reduced poppy cultivation** but lamented the **lack of an inclusive government.** Iran proposed a **regional contact group for Afghan-related matters.**

#### What is Moscow Format:

- The Moscow format is one of the **several dialogue platforms on Afghanistan which began before the Taliban takeover** of Kabul.
- It was **introduced in 2017** on the basis of the **six-party mechanism for consultations** among special representatives from **Russia, Afghanistan, China, Pakistan, Iran and India.**
- The **key objective** of the Moscow format of consultations is to **facilitate the national reconciliation process in Afghanistan to establish peace.**

### Topic 19. NEED FOR CREATION OF GLOBAL DISPUTE SETTLEMENT

#### *Important for the subject : International Relations*

Recently concluded G-20 declaration reiterated need to reform WTO to improve its functioning along with establishing fully functioning dispute settlement system accessible to all members by 2024.

- WTO's dispute settlement system, conceived as two-tier panel cum appellate body, has been dysfunctional since 2019, due to repeated blockage by US.
- Other area seeing formative stages of appellate process is **ISDS (investor state dispute settlement), an ubiquitous component of BITs (bilateral investment treaties).**
- **ISDS** today is principal means to settle international investment law disputes.
- Till 1 Jan 2023, 1257 ISDS cases have been initiated. India has a chequered history with ISDS- with 5 adverse awards: 4 in favour and several pending claims.

#### WTO dispute settlement

- WTO is an international body that also deals in Dispute Settlements. The member country will approach the WTO's dispute settlement body when a country fails to comply with WTO rules.
- **All the members are encouraged to settle the disputes through consultation or a panel if the consultation fails.**
- The **constituted panel will circulate the verdict of the dispute settlement amongst WTO members** who can decide to reject the ruling.
- If the ruling is approved, the member country that violated the rules must change rules in line with the WTO Agreement.
- In the case of failure to do so, the complaining country and the violating country may determine a mutually-acceptable compensation, failing which, the complaining country may retaliate suitably.



## WTO's Appellate Body

### Appeals against the orders of DSB is taken to WTO Appellate Body.

- The Appellate Body, set up in 1995, is a standing committee of seven members that presides over appeals against judgments passed in trade-related disputes brought by WTO members.
- Countries involved in a dispute over measures purported to break a WTO agreement or obligation can approach the Appellate Body if they feel the report of the panel set up to examine the issue needs to be reviewed on points of law.
- However, existing evidence is not re-examined but legal interpretations are reviewed.
- The Appellate Body can uphold, modify, or reverse the legal findings of the panel that heard the dispute. Countries on either or both sides of the dispute can appeal.
- The Appellate Body has so far issued 152 reports. The reports, once adopted by the WTO's dispute settlement body, are final and binding on the parties.

## UNCITRAL

- It is a subsidiary body of the U.N. General Assembly (UNGA) responsible for helping to facilitate international trade and investment.
- It is the core legal body of the United Nations system in the field of international trade law.
- UNCITRAL carries out its work at annual sessions held alternately in New York City and Vienna, where it is headquartered.

### Established by the UNGA in 1966.

- The Tribunal constituted in accordance with the UNCITRAL Arbitration Rules 1976 is seated at the Hague, Netherlands, and proceedings are administered by the Permanent Court of Arbitration.
- Since its inception, India is only one of eight countries that has been a member of UNCITRAL.
- The **UNCITRAL Model Law on Cross-Border Insolvency (1997)** (MLCBI) is designed to assist States in developing a modern, harmonized and fair insolvency framework to more effectively address instances of cross-border proceedings concerning debtors experiencing severe financial distress or insolvency.
- It provides legal framework to deal with cross-border insolvency issues while ensuring the least intrusion into the country's domestic insolvency law.

---

## Topic 20. NEWS-JEWAR AIRPORT, NOIDA GET DXN CODE

### *Important for the subject: International Relations*

#### What is an IATA code?

The need for unique identifiers for locations arose among pilots in the 1930s. While this started as a two-letter practice for airports, the restricted number of possible options soon resulted in a three-letter practice for identifying airports and other locations related to

aviation connectivity in the world.

Each airport is given 2 codes- one by ICAO, UN body and other by IATA (International air transport association ). Example- Indira Gandhi airport, Delhi- has DEL code by IATA, and its ICAO code is VIDP.

### **International Civil Aviation Organisation**

- ICAO is a United Nations (UN) specialized agency, established in 1944, which laid the foundation for the standards and procedures for peaceful global air navigation.
- The Convention on International Civil Aviation was signed on 7th December 1944 in Chicago.
- It established the core principles permitting international transport by air, and also led to the creation of the ICAO.
- Its one of the objectives is to foster the planning and development of international air transport so as to ensure the safe and orderly growth of international civil aviation throughout the world.
- India is among its 193 members. It is **headquartered in Montreal, Canada.**

### **IATA**

- The International Air Transport Association (IATA) is the trade association for the world's airlines, representing some 300 airlines or 83% of total air traffic.

## **Topic 21. OIL MINISTER PURI URGES OPEC TO REDUCE OIL PRICES**

### *Important for the subject: International Relations*

Oil minister Puri urges OPEC to be pragmatic, make global crude prices affordable Brent Crude oil prices have jumped from around \$72 in June to around **\$97 per** barrel in September 2023.

Oil Minister Hardeep Puri appealed to OPEC to ensure that the global energy market remains balanced by ensuring that crude oil prices do not outstrip the paying ability of the consuming countries.

- Puri has also been cautioning that unreasonably high oil prices could jeopardise the post-pandemic recovery and lead to an economic slowdown in various parts of the world, which could in turn hit global oil demand.
- The Organization of the Petroleum Exporting Countries (OPEC) was founded in Baghdad in 1960 and headquartered in Vienna.
- OPEC has 14 member countries including the Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela as its founder members.
- Currently, the Organization has a total of 13 Member Countries. Qatar is the last country to terminate its membership.
- In its biannual meetings, oil ministers agree on production quotas for each member. They

can control production since most of the member countries have state-run oil firms.

- OPEC's stated objective is to co-ordinate and unify petroleum policies among member countries and ensure stable prices for petroleum producers.
- Most OPEC countries rely heavily on revenue from oil sales. High oil prices can hurt demand and low prices can affect the budget. Hence the organization tries to balance oil prices from getting too low or too high.

#### OPEC +:

- OPEC+ refers to the group of 24 crude producers comprising OPEC members and non-OPEC members including Russia.
- The OPEC members' bloc is led by Saudi Arabia while Russia is the biggest producer amongst the non-OPEC members.
- OPEC controls 35% of global oil supplies and 82% of proven reserves. These figures increase to 55% and 90% respectively with the addition of non-members to form the OPEC+ group. This enables the OPEC+ group to have substantial control of oil prices around the world economy.

#### Why is the price rise more worrisome for India?

- India is the **world's third-largest consumer of crude oil** and depends on imports to meet over **85 percent of its requirement**.
- Given the country's extremely **high import dependency, India's economy is sensitive to oil price volatility**.
- Apart from **inflationary pressures, high oil prices could have implications for India's trade balance, foreign exchange reserves, the rupee, and the overall health of the economy**.

#### What has supported the recent price surge?

- Production cuts by major oil producing countries. Signs of improved macroeconomic conditions and easing of inflation in major oil consumers like the US.
- Global oil demand is touching record highs with expectations of further demand expansion.

#### Production cuts by OPEC plus:

- Saudi Arabia and Russia surprised the world last month by announcing an extension of their **voluntary supply cuts—totalling 1.3 million barrels per day (bpd)—till the end of 2023**.
- The additional voluntary production cuts by Riyadh and Moscow are over and above the OPEC+ cuts totalling 3.66 million bpd, which shall be in place till the end of 2024.

#### Economic Impact of high crude prices on India:

- High oil prices negatively **impact India's trade balance** and are a **drain on the country's valuable foreign exchange reserves, which** also has a bearing **on the value of the rupee**.
- Elevated oil prices pose a **challenge to the Indian rupee**, and a sustained increase could push the currency to record lows against the U.S. dollar, the head of global foreign exchange.
- While there is no direct fixed relationship between oil prices and currency value, generally a sustained rise in crude price is **negative for Rupee**.

- As with other major importers of oil, a surge in oil prices adds to **inflationary pressures for India as well**. High oil prices can also potentially hit profitability of key sectors with high energy costs.
- All of these implications could have a negative impact on economic growth, as high inflation and low profitability in various sectors would hit disposable incomes and discretionary spending.

#### Global Economic Impact of High Prices:

- High oil prices on a sustained basis could feed into inflation globally, jeopardise global economic recovery, and lead to destruction in oil demand from major consumers.
- High oil prices also incentivise faster transition to cleaner fuels, particularly in the mobility sector.

#### OPEC +

- OPEC+ is a larger group of major oil producing nations and includes members of OPEC along with Russia and a few other producers. OPEC+ produces around 40 per cent of the world's crude oil, with Saudi Arabia as the top producer and Russia in the second spot.

#### Market-linked pricing mechanism

- Under India's 'market-linked' pricing mechanism, oil marketing companies are expected to increase or decrease the selling price of petrol and diesel based on the international price of crude oil.
- However, they were forced to keep prices stable last year because of several state elections, despite a rise in crude oil after Russia attacked Ukraine in February last year.

### Topic 22. ARMENIA'S PARLIAMENT VOTES TO JOIN INTERNATIONAL CRIMINAL COURT (ICC)

#### *Important for the subject : International Relations*

Armenia's Parliament voted to join the International Criminal Court, Armenia's Parliament has **voted to join the International Criminal Court (ICC)**, which has strained its relationship with Russia.

- Russia had called **Armenia's move an "unfriendly step"** after the ICC issued an arrest warrant for President Vladimir Putin.
- Armenia **reassured Russia that Putin** wouldn't be arrested if he entered the country.
- The decision comes amid tensions between Armenia and Russia due to a 2020 war with Azerbaijan, and Armenia's alignment with the West.
- It remains unclear how this move will affect their relationship and Armenia's involvement in Russia-led alliances.

#### Some facts about International Criminal Court (ICC):

- The International Criminal Court is a **permanent court** to prosecute serious international crimes committed by individuals.

- It tries **crimes such as genocide, war crimes, crimes against humanity**, and aggression.
- The court was **established to fight global impunity** and bring to justice criminals under international law, regardless of their rank or stature.
- It is **different from the United Nations' International Court of Justice**, also at The Hague.
- The **Head Quarter of ICC is in The Hague, The Netherlands**
- Statute: **Before the ICC became functional in 2002**, its founding treaty was adopted by the UN General Assembly in 1998 in Rome, Italy, thereby making it the **Rome Statute**.

#### How one can become member of ICC:

- To become a **member of the ICC or State party to the Rome Statute**, countries have to **sign the statute and ratify** it under their respective legislatures.
- 123 countries are currently members of the ICC, with African countries making up the largest bloc.
- Notably, **countries including India, China, Iraq, North Korea and Turkey never signed the Rome Statute. Others including the US, Russia, Israel and Syria signed, but never ratified.**

### Topic 23. CHANGE IN THE MALDIVES

#### *Important for the subject: International Relations*

Opposition candidate Mohamed Muizzu was elected President of the Maldives. The Maldives has **elected Mohamed Muizzu** as its new leader, **replacing President Ibu Solih**. Muizzu's victory in the presidential run-off is attributed to **anti-incumbency sentiment, economic concerns post-COVID-19, party rifts, and sovereignty issues**.

- The contest was seen as **India versus China**, with India extending congratulations but needing to maintain impartiality.
- Muizzu **faces economic challenges, potential release of former President Yameen, and decisions on governance structure and foreign relations**.

#### What is the Electoral System in Maldives:

- Maldives Parliament is called **Majlis/People's Majlis**. The **structure of Parliament is Unicameral**.
- In the Maldives, **Parliament and Council elections run under the first-past-the-post majority system**. Voters vote for **only one candidate**.
- The Assembly (Majlis) has **87 members**. All members are elected directly for a **term of five years from 87 single-member constituencies**.
- The President of the Maldives is **elected using the two-round system**. **If no candidate wins more than 50% of the votes, then a second round, or run-off, is held**.

#### What are India's recent projects in Maldives:

- Water and sanitation in 34 islands, Roads and land reclamation under the **Addu development project**, A cancer hospital, a port project, a cricket stadium, two airport development projects, the **Greater Male connectivity project** with bridges,

### What is Greater Male Connectivity Project

- **Afcons, an Indian company**, has signed a contract for the **largest-ever infrastructure project in Maldives-Greater Male Connectivity Project (GMCP)**.
- The Project will consist of a **6.74 km-long bridge** and causeway link **between Male and nearby islands of Villingli, Gulhifalhu and Thilafushi**. It will use renewable energy.
- The project is **funded by a grant of USD 100 million and a Line of Credit (LOC) of USD 400 million from India**.
- It is not only the biggest project India undertakes in the Maldives **but also the biggest infrastructure project in the Maldives**.

### Topic 24. THE SHUTDOWN OF THE AFGHAN EMBASSY

*Important for the subject: International Relations*

Islamic Republic of Afghanistan announced the closure of the Embassy of Afghanistan in Delhi. On **September 30**, a statement carrying the seal of the **Ministry of Foreign Affairs of the Islamic Republic of Afghanistan** announced the closure of the Embassy of Afghanistan in Delhi.

- In its official communication, the Embassy of Afghanistan **blamed multiple factors including lack of cooperation from the Government of India** and a lack of resources to operate any further.
- Furthermore, the embassy has **urged the Indian government to fly the flag of the Islamic Republic of Afghanistan** over embassy premises.
- It has also **asked New Delhi to hand over the mission to a “legitimate government”** of Afghanistan sometime in the future.

#### What does the shutdown of the embassy mean:

- Despite the **closure of the embassy in Delhi**, India and Afghanistan are continuing engagement with each other in a curious way.
- India has been **maintaining a “technical team” in Kabul** where the **staff provides visas to Afghan traders and travellers to India**. There are **two weekly flights** that carry Afghan citizens and items to India.
- India **uses the flights while sending humanitarian assistance** to the Afghan people. That apart, **some Indian goods are also entering Afghanistan** through other countries like Iran and the UAE.

#### Will the move affect travel and trade between Afghanistan and India:

- Despite Afghanistan’s embassy in Delhi announcing its closure, **the consulates in Hyderabad and Mumbai remain operational**, with Consul General Zakia Wardak affirming their commitment to Afghan students, refugees, and traders, offering support amidst potential confusion.



## Topic 25. TURKEY DETAINS 1000 FOR ANKARA BLAST

*Important for the subject: International Relations*

Turkish police have launched a wide security crackdown following a suicide bomb attack in Turkey's capital, Ankara. The **PKK**, designated as a **terrorist organization** by the US and EU, has waged a decades-long rebellion in Turkey, causing tens of thousands of deaths since 1984.

- On Sunday, a **suicide bomber targeted the Turkish Ministry of Interior**, coinciding with President Erdogan's parliamentary address.
- A second attacker was killed in a police shootout, injuring two officers. The suspects used a stolen vehicle and were linked to the PKK.
- Subsequently, **Turkey launched airstrikes on suspected PKK locations in northern Iraq.**

**Who are Kurds:**

- Kurds are an **Iranian ethnic group native** to the mountainous region of Kurdistan in Western Asia, which **spans southeastern Turkey, northwestern Iran, northern Iraq, and northern Syria.**
- They make up the **fourth-largest ethnic group in the Middle East** after Arabs, Persians, and Turks.

**What religion is followed by Kurds:**

- Most Kurds are **Sunni Muslims who adhere to the Shafi'i school**, while a significant minority adhere to the **Hanafi school and also Alevism.**
- Moreover, **many Shafi'i Kurds adhere to either one of the two Sufi orders Naqshbandi and Qadiriyya.**
- Other religions with significant Kurdish adherents are **Yarsanism and Yazidism.**

**What is the History of Kurds Nationalism:**

- Kurdish nationalism stirred in the **1890s when the Ottoman Empire** was on its last legs.
- The **1920 Treaty of Sevres**, imposed a **settlement and colonial carve-up of Turkey** after World War One, **promised Kurds independence.** But the accord was broken by Turkish leader Kemal Ataturk.
- **The Treaty of Lausanne, ratified in 1924,** divided the Kurds **among the new nations of the Middle East.**
- With the **1946 Republic of Mahabad**, a Soviet-backed state **stretching over Iran's border with Turkey and Iraq** Kurdish separatism in Iran first bubbled to the surface.
- **The 1979 Iran's Islamic Revolution** touched off bloodshed in its Kurdistan region with heavy clashes between the **Shiite revolutionaries and the Kurdish Party of Iranian Kurdistan (KDPI)** which fought for independence.

**What are the demands of Kurds:**

- The Kurds have **never achieved nation-state status, except in Iraq**, where they have a **regional government called Iraqi Kurdistan.**



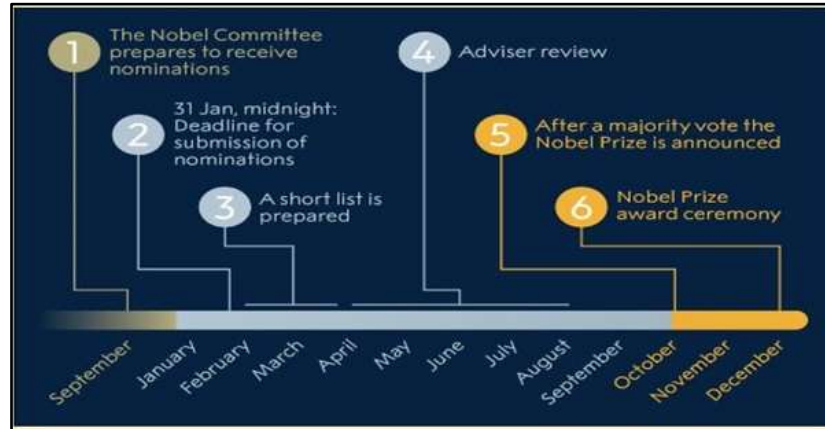
- The Kurds want to establish their independent nation-state Kurdistan which comprises five different regions: southeastern Turkey, northeastern Syria, northern Iraq, northwestern Iran and southwestern Armenia.

**What is the PKK and its armed movement:**

- The Kurdistan Workers' Party (PKK) was founded by the Marxist revolutionary Abdullah Öcalan in 1978 to create an independent Kurdistan.
- Its guerrilla forces fought against the Turkish army from 1984 until Öcalan was captured in 1999, when 40,000 Kurdish civilians were killed.
- The PPK declared a ceasefire in 2013. However, this ceasefire collapsed after Turkey joined the war against the Islamic State in 2015 and started bombing PKK targets in Iraq.
- Under President Recep Tayyip Erdogan, Türkiye cracked down PKK militants as well as Kurdish civilians, including lawmakers and activists.
- According to the government of Türkiye, the PKK mainly targets police, military, economic and social assets of the country.
- The terrorist organization is also involved in attacks against civilians and diplomatic and consular facilities as well as in extortion, arms smuggling and drug trafficking.

## Topic 26. WHY THE PEACE NOBEL IS AWARDED IN NORWAY WHILE OTHER IN SWEDEN

*Important for the subject: International Relations*



**Why its given in Norway:**

The Nobel Peace Prize has been awarded by a Norwegian committee, appointed by the Norwegian Parliament, since 1901. Alfred Nobel's reasons for this choice are **speculative**, possibly rooted in admiration for Norwegian figures or concerns about political influence

- Some Nobel Historians believe that the Sweden history of militarism may have been one of the reasons. Moreover Sweden and Norway were a union which Norway joined

reluctantly after Sweden invaded the country in 1814.

#### More details about Nobel Prize:

- The Nobel Prize was **set up when businessman and entrepreneur Alfred Nobel** died and left the majority of his fortune to the **establishment of prizes in physics, chemistry, physiology or medicine, literature, and peace**
- The Nobel Prizes are **awarded annually in six categories: Peace, Literature, Physics, Chemistry, Physiology or Medicine, and Economic Sciences.**
- The **Economic Sciences** category was **added later in 1968** and is officially known as **the Sveriges Riksbank Prize in Economic Sciences** in Memory of Alfred Nobel.
- The **first Prizes** were awarded in **1901**. The **Nobel Peace Prize** is awarded in **Oslo, Norway**, while the **others** are awarded in **Stockholm, Sweden**. The Nobel Prize consists of a **Nobel Medal and Diploma**, and a **document confirming the prize amount**.
- **The Nobel Prize cannot be given posthumously and it cannot be shared between more than three people.** One cannot nominate himself/herself for a **Nobel Prize**.

#### Some details about the Nobel Foundation:

- The Nobel Foundation, a **private institution established in 1900**, has **ultimate responsibility** for fulfilling the **intentions of Alfred Nobel's will**.
- They also **ensure that the prize-awarding institutions are guaranteed independence** in their work of selecting recipients.
- The Foundation is also **tasked with strengthening the Prize's position** by administering and developing the brands and intangible assets that have been built up during the Nobel history, which spans more than 100 years.
- The Nobel Foundation also **strives to safeguard the prize-awarding institutions' common interests**.

#### How are the Nobel Prize laureates selected:

#### What are the institutions that choose winners:

- The Nobel Committees of the prize-awarding institutions are responsible for the selection of the candidates, the institutions being:

#### Nobel Prize in Physics, Nobel Prize in Chemistry: The Royal Swedish Academy of Sciences

- **Nobel Prize in Physiology or Medicine: The Karolinska Institutet**
- **Nobel Prize in Literature: The Swedish Academy**
- **Nobel Peace Prize: A five-member Committee elected by the Norwegian Parliament (Storting)**
- **Prize in Economic Sciences: The Royal Swedish Academy of Sciences**

#### Who are the Indians (or individuals of Indian origin) who have been honoured with the Nobel:

- **Rabindranath Tagore (Literature, 1913),**
- **C V Raman (Physics, 1930)**

- Hargobind Khorana (Medicine, 1968)
- Mother Teresa (Peace, 1979)
- Subramanian Chandrashekar (Physics, 1983),
- The Dalai Lama (Peace, 1989)
- Amartya Sen (Economics, 1998)
- Venkatraman Ramakrishnan (2009)
- Kailash Satyarthi (Peace, 2014).

### Topic 27. COMMONWEALTH OF INDEPENDENT STATES (CIS)

*Important for the subject: International Relations*

#### Commonwealth of Independent States (CIS):

The Commonwealth of Independent States (CIS) is an **intergovernmental organization formed in 1991** by former Soviet Union nations. It promotes **cooperation in various domains, including politics, economics, environment, humanitarian, culture, and more.**

- **Founding members comprise Belarus, Russia, and Ukraine**, with other Soviet republics joining later after **signing the Alma-Ata Protocol.**
- Now, the Commonwealth of Independent States (CIS) has the following countries as its members:  
**3 Founding members: Russia, Belarus & Ukraine**
- **9 other members: Armenia, Kazakhstan, Georgia, Azerbaijan, Turkmenistan, Tajikistan, Uzbekistan, Moldova and Kyrgyzstan.** Headquarters of the CIS is in **Minsk, Belarus.**
- Meetings are held periodically on a rotating basis at the CIS countries' capitals.

### Topic 28. LEAST DEVELOPED COUNTRIES SET EXPECTATIONS FOR COP28 WITH DAKAR DECLARATION

*Important for the subject: International Relations*

Ministers from the world's **46 least developed countries (LDC)** issued a joint **Dakar Declaration on Climate Change 2023** outlining their expectation and priorities for **28th Conference of Parties (COP28)** to the **United Nations Framework Convention on Climate Change.**

#### Dakar declaration:

- The **Dakar Declaration** called for **urgent global emissions reductions, increased climate finance**, a strong outcome operationalising the new **Loss and Damage Fund** and an ambitious **Global Stocktake** to close the gaps in global climate action.
- **LDCs account for more than 14 per cent of the global population, they only account**

for about 1 per cent of emissions from fossil fuels and industrial processes.

**Key points of the Dakar declaration:**

- **Developed countries** must present a clear road map for at least **doubling adaptation finance delivered by 2025** through public, grant-based financing.
- A **New Collective Quantified Goal on Climate Finance** should provide new and additional resources and should be many times greater than the current **\$100 billion per year floor**.
- The **UNFCCC centralised carbon market mechanism** must also be operationalised by **2024**, including the recognition of the specific needs and special circumstances of **LDCs**, as well as the implementation of **Article 6 of the Paris Agreement’s capacity building programme**.

**About ‘LDC Climate change’ group:**

- The **Least Developed Countries** are **46 nations** that are **especially vulnerable to climate change** but have done the least to cause the problem.
- Through the coordination of the **LDC Group on Climate Change**, the Least Developed Countries work together at the intergovernmental negotiations under the **UN Framework Convention on Climate Change**.
- The current chair of the LDC Group is **Ms Madeleine Diouf Sarr (Senegal)**. **Dakar** is the **capital and largest city of Senegal**.

**Topic 29. NOBEL PEACE PRIZE**

*Important for the subject: International Relations*

Narges Mohammadi, the Iranian woman awarded the Nobel Peace Prize. Iranian activist **Narges Mohammadi** has been chosen by the **Norwegian Nobel Committee** for the **coveted Nobel Peace Prize, 2023** for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all.

- The Prize **recognizes their contribution for many years**, promoting the right to criticize arbitrary policies and protecting the fundamental rights of citizens.
- Currently she is **detained in Iran** under charges of **“spreading anti-state propaganda”** and defamation. **Sentenced to a total of 31 years in prison and 154 lashes**

**What are the previous awards and recognition of Narges Mohammadi:**

- **2023 PEN/Barbey Freedom to Write Award. 2023 UNESCO/Guillermo Cano World Press Freedom Prize**

**Featured in BBC’s list of 100 inspiring and influential women in 2022.**

- Her book **‘White Torture: Interviews with Iranian Women Prisoners’** also won an award for reportage at the **International Film Festival and Human Rights’ Forum**.

**Some other facts:**

- Narges Mohammadi has become the **second Iranian woman to receive the Nobel**

**Peace Prize after Shirin Ebadi** who was awarded the **Nobel Peace Prize in 2003.**

- **Shirin was also the first Muslim woman to receive the award. Narges Mohammadi is the 19th woman to have won the Nobel Peace Prize.**

**What is the Iranian Hijab Movement:**

- The **Iranian law strictly recommends** women to wear **hijabs or headscarves** with their regular outfits. **Anyone not following this is recently being arrested, warned, or punished severely.**
- **Mahsa Amini, a 22 years old youth,** was arrested for breaching the dress code of Iranian women.
- The arrest of Mahsa Amini by the **Iranian morality police,** followed by **her death,** led to the outbreak of a massive protest by the Iranian women demanding greater freedom.
- This demand at present is **no longer restricted to Iran but has taken the shape of a worldwide protest with banners displaying “Women, life, liberty.”**

**More details about Nobel Prize:**

- The Nobel Prize was **set up when businessman and entrepreneur Alfred Nobel** died and left the majority of his fortune to the **establishment of prizes in physics, chemistry, physiology or medicine, literature, and peace**
- The Nobel Prizes are **awarded annually in six categories: Peace, Literature, Physics, Chemistry, Physiology or Medicine, and Economic Sciences.**
- The **Economic Sciences category** was **added later in 1968** and is officially known as **the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.**

**The first Prizes were awarded in 1901**

- The **Nobel Peace Prize** is awarded in **Oslo, Norway,** while the **others are awarded in Stockholm, Sweden.**
- The Nobel Prize consists of a **Nobel Medal and Diploma,** and a **document confirming the prize amount**
- **The Nobel Prize cannot be given posthumously and it cannot be shared between more than three people.**
- **One cannot nominate himself/herself for a Nobel Prize.**

### **Topic 30. RUSSIA MAY PULL OUT OF CTBT**

*Important for the subject: International Relations*

Russia indicated that it was moving swiftly towards revoking its ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT).

**More about the news:**

- Russia indicated that it was **moving swiftly towards revoking** its ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT) after **President Vladimir Putin held out the possibility of resuming nuclear testing.**
- President Putin said that Russia could look at **revoking ratification of the CTBT as the**



**United States had signed but not ratified it.**

- A resumption of nuclear tests by Russia, the United States or China could indicate the start of a new nuclear arms race between the big powers who stopped nuclear testing in the years following the 1991 collapse of the Soviet Union.
- Russia currently has around **5,889 nuclear warheads**, compared with **5,244 for the United States**, according to the Federation of American Scientists

**What is Comprehensive Nuclear Test Ban Treaty (CTBT):**

- The Comprehensive Test Ban Treaty (CTBT) **prohibits nuclear test explosions** worldwide.
- It was **introduced in September 1996**, signed by **187 nations**, and **ratified by 178**. However, for it to **take full effect**, **44 specific nations must ratify it**, with **eight, including India, China, Pakistan, North Korea, Israel, Iran, Egypt, and the United States, yet to do so**.
- The CTBT **establishes a global monitoring network and allows on-site inspections** for compliance.
- Since its introduction, **nuclear testing has become widely discouraged, with even non-ratifying states like India, Israel, and Pakistan observing moratoriums on nuclear testing**.
- While **Russia ratified the agreement in 2000**, the US is still to do so

**How did CTBT come into Being:**

- Between **1945 and 1996**, more than **2,000 nuclear tests** were carried out — **1,032 of them by the United States and 715 of them by the Soviet Union**, according to the UN.

**Britain carried out 45 tests, France 210 and China 45.**

- The radioactive fallout from those tests **drew criticism from around the globe**. The international community's concern about the effects on health and the environment continued to grow.
- As a result, **several attempts to curb the explosive tests** were made. The **1963 Limited Nuclear Test-Ban Treaty (LTBT)** was one of the **first such attempts**. It **prohibited nuclear testing in the atmosphere, outer space, and underwater, but underground tests were still permitted**.
- A **major breakthrough** only came **after the Cold War ended around 1990** and the disintegration of the Soviet Union.
- As the geopolitical tensions simmered down, the **UN took advantage of the situation and adopted the CTBT**, which put a **blanket ban on the explosive testing of nuclear weapons**.

**Why has India Refused to Sign the CTBT:**

- India's interest in a nuclear test ban dates back to Prime Minister Jawaharlal Nehru's 1954 call for a halt in nuclear testing between the U.S. and the Soviet Union.
- However, this was **thwarted due to verification concerns**. India's stance on the Comprehensive Test Ban Treaty (CTBT) is **driven by national security interests, viewing nuclear weapons as a deterrent**.
- **Signing the CTBT**, it believes, **would limit its strategic autonomy and ability to test, while prioritizing equitable global disarmament and national security**.



## Topic 31. EIGHT YEAR OLD BOY AT THE HEART OF FIGHT OVER MONGOLIAN SPIRITUAL LEADER

*Important for the subject: International Relations*

An **affluent Mongolian boy** born into a **mining dynasty** unexpectedly becomes a pivotal figure in a struggle between the Dalai Lama and the Chinese Communist Party.

Identified as the **10th reincarnation of the Bogd**, a significant figure in Tibetan Buddhism, his selection challenges Chinese influence and puts Mongolia's relations with China to the test.

- The **boy's privileged background raises concerns of elitism** in the selection process, while geopolitical implications loom large, including potential repercussions for U.S.-Mongolia relations.
- The Dalai Lama's **choice signifies a shift in power within Tibetan Buddhism, with China aiming to control the faith globally.**

**Significance of the Recognition in Tibetan Buddhism:**

- The **recognition of the Mongolian boy** as the reincarnation of **Khalkha Jetsun Dhampa Rinpoche** is a significant event in Tibetan Buddhism.
- The Dalai Lama himself is **recognized as the 10th Khalkha Jetsun Dhampa Rinpoche**, and his recognition of the boy as the reincarnation of one of his predecessors carries significant weight within the religion.

**Some Details about Dalai Lama:**

- Dalai Lama is a **title given** by the Tibetan people for the **foremost spiritual leader** of the **Gelug or "Yellow Hat"** school of Tibetan Buddhism, the newest of the classical schools of Tibetan Buddhism.
- The **14th** and current Dalai Lama is **Tenzin Gyatso**. He was **born on 6 July 1935**, to a **farming family**, in a small hamlet located in **Taktser, Amdo, northeastern Tibet**.
- At the **age of two**, the child, then named **Lhamo Dhondup**, was recognized as the reincarnation of the previous **13th Dalai Lama, Thubten Gyatso**.
- The Dalai Lamas are believed to be **manifestations of Avalokiteshvara or Chenrezig**, the **Bodhisattva of Compassion** and the **patron saint of Tibet**.
- Bodhisattvas are realized beings inspired by a wish to **attain Buddhahood** for the benefit of **all sentient beings**, who have vowed to be **reborn in the world** to help humanity.
- In his Holiness the **Dalai Lama 1989** he was awarded the **Nobel Peace Prize** for his non-violent struggle for the liberation of Tibet.

**How Dalai Lama is selected:**

- Following the **Buddhist belief in the principle of reincarnation**, the current Dalai Lama is **believed by Buddhists to be able to choose the body** into which he is reincarnated.
- That person, when found, will then become the **next Dalai Lama**. 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.

- If **more than one candidate is identified, the true successor** is found by officials and monks drawing lots in a public ceremony.
- Once identified, the **successful candidate and his family are taken to Lhasa** (or Dharamsala) where the **child studies the Buddhist scriptures** in order to prepare for spiritual leadership.
- This process **can take several years: it took four years to find the 14th (current) Dalai Lama.**
- The search is **generally limited to Tibet**, although the current Dalai Lama has said that there is a chance that he will not be reborn, and that if he is, it will not be in a country under Chinese rule.

### Topic 32. NOBEL PRIZE FOR LITERATURE 2023

#### *Important for the subject : International Relations*

The Nobel Prize for Literature 2023 has been awarded to Norwegian author Jon Olav Fosse.

#### **More about the news:**

- The Nobel Prize for Literature 2023 has been awarded to Norwegian author Jon Olav Fosse, for his **“innovative plays and prose which give voice to the unsayable**

#### **Who is Jon Fosse:**

- Fosse **writes in Norwegian Nynorsk**, the least common of the two official versions of Norwegian. **Born in 1959**, Fosse first **started writing novels**, switching to plays in his 30s.
- He went on to become one of Norway’s most-performed dramatists, and is in fact counted among the most performed of living European dramatists.
- His work has been **translated into more than 40 languages**. Fosse has written around **40 plays**, apart from novels, short stories, children’s books, poetry and essays.
- His **“A New Name: Septology VI-VII”** was a finalist for the **International Booker Prize last year**. Other notable works by Fosse include **I Am the Wind, Melancholy, Boathouse, and The Dead Dogs**.

#### **Some details about his Writing styles**

- His writing is marked by straightforward, concise, and piercing dialogues. It **shares resemblances with the works of Nobel laureates Samuel Beckett and Harold Pinter**.

#### **In his writing, he delves into:**

- The inexplicable, pointless, yet impactful aspects of the human experience. The commonplace perplexities and unresolved dilemmas of daily life.
- The challenge of establishing genuine connections, often hindered by, or even exacerbated through, communication.

### More details about Nobel Prize:

- The Nobel Prize was **set up when businessman and entrepreneur Alfred Nobel** died and left the majority of his fortune to the **establishment of prizes in physics, chemistry, physiology or medicine, literature, and peace**
- The Nobel Prizes are **awarded annually in six categories: Peace, Literature, Physics, Chemistry, Physiology or Medicine, and Economic Sciences.**
- The **Economic Sciences** category was **added later in 1968** and is officially known as **the Sveriges Riksbank Prize in Economic Sciences** in Memory of Alfred Nobel.

### The first Prizes were awarded in 1901

- The **Nobel Peace Prize** is **awarded in Oslo, Norway**, while the **others are awarded in Stockholm, Sweden.** The Nobel Prize consists of a **Nobel Medal and Diploma, and a document confirming the prize amount.**
- The **Nobel Prize cannot be given posthumously** and it **cannot be shared between more than three people.** One **cannot nominate himself/herself for a Nobel Prize.**

## Topic 33. CHOLERA OUTBREAK ACROSS ZIMBABWE

### *Important for the subject: International Relations*

Cholera outbreak across Zimbabwe kills up to 100 people. Zimbabwe is facing a cholera **crisis with 100 suspected deaths** and over 5,000 possible cases since last month.

The government has **imposed restrictions to curb** the disease's spread, including limiting funeral attendance to 50 people, halting some social gatherings, and discouraging open markets.

- The outbreak has **now spread across 41 districts**, including the **capital, Harare**, with **neighboring countries** also grappling with cholera outbreaks.
- Inadequate infrastructure and sanitation have historically contributed to cholera outbreaks in Zimbabwe, with the **worst outbreak in 2008 claiming over 4,000 lives.**

### Some facts about Zimbabwe:

- Zimbabwe is a **landlocked country** of southern Africa. It **shares a border on the south with South Africa** and is surrounded on the **west by Botswana, on the north by Zambia**, and on the northeast and **east by Mozambique.**
- The capital and **largest city is Harare**, and the **second largest is Bulawayo.** Zimbabwe, **lies to the north of the Tropic of Capricorn**, is **completely within the tropics** but enjoys subtropical conditions.
- It is dominated by **Savannah grasslands.** The **Zimbabwean dollar** is the **official currency of the country.** Zimbabwe's **largest ethnic group** are the **Shona**, who make up 80% of the population, followed by the **Northern Ndebele.**
- Zimbabwe is a **republic with a presidential system** of government. The semi-presidential system was abolished with the adoption of a new constitution after a referendum in 2013.

## Topic 34. FIFTH INTERNATIONAL CONFERENCE ON CHEMICALS MANAGEMENT

*Important for the subject: Environment*

Delegates at a **United Nations (UN) Conference in the German city of Bonn** adopted a new global framework to reduce environmental risks from chemicals and waste on September 30, 2023. Countries also committed to phase out the most harmful chemicals at the fifth International Conference on Chemicals Management or ICCM5.

- The aim of the framework is to phase out lethal agricultural pesticides by 2035. The **Bonn Declaration** was also adopted at the summit.
- The Declaration aims to “**prevent exposure to harmful chemicals, and phase out the most harmful ones, where appropriate, and enhance the safe management of such chemicals where they are needed.**” It also encourages countries to support the transition to circular economies and to develop substitutes for chemicals.

**What does the roadmap envisage?**

- The plan sets out **28 concrete targets** and guidelines for key sectors from production to waste. These include preventing illegal trafficking of chemicals and waste, introducing national laws and phasing out highly dangerous pesticides in agriculture by 2035.
- It also calls for a transition to more sustainable chemical alternatives, responsible use of chemicals in industry, agriculture and healthcare sectors, and better access to information about the risks associated with different chemicals.
- In addition, a **system for classifying and labeling chemicals** is to be introduced in more countries and a fund is to be created to promote the safe use of chemicals.
- **Germany has pledged €20 million** to implement the framework, which UNEP will manage.

---

## Topic 35 EFFECT OF INVASIVE PLANTS

*Important for the subject: Environment*

Some states banning and taking steps to control invasive plants **Gujarat banned Conocarpus plants** Significance/ Background- To increase forest cover in Gujarat, Conocarpus plants was used in recent years.

**Effects-**

**Harm local flora and fauna-**

- Cause diseases- cold, cough, asthma
- Roots go deep inside and damage telecommunication lines and freshwater system
- Unsuitable to plant eating animals
- Kills competition (against Gause rule)- eg- Delhi- Vilayatikikar taken over native trees

like- acacia, kadamb etc

### Depletes water table

- Reduce fodder availability in forests for animals- chances of animals foraging into human settlements increases- man animal conflicts (WII study )
- Adverse impact on human health too

### Other states taking similar steps-

- Telangana banned same plant.

## Topic 36. THE LARGEST CLIMATE ACTION SUIT AGAINST 32 COUNTRIES

### *Important for the subject: Environment*

On September 27, a significant **legal battle will commence** at the **European Court of Human Rights in Strasbourg**, involving **32 European governments and six young Portuguese individuals aged 11 to 24**.

- These young plaintiffs will argue that **their governments' inadequate action** on the climate crisis **violates their human rights** and discriminates against youth globally.
- The case, supported by the **Global Legal Action Network (GLAN)**, is unprecedented in scale and importance, with **2,180 climate-related cases filed in 65 countries** by December 2022, indicating a growing trend of young people holding governments accountable for climate inaction.

### What is the lawsuit all about:

- In **September 2020**, the case of **Duarte Agostinho and Others v. Portugal and Others** was filed, following the **2017 wildfires in Portugal** that claimed nearly 66 lives and vast forest areas.
- The young Portuguese plaintiffs argue that **European nations have failed to meet climate emissions targets, violating human rights**. They aim to **demonstrate that current emission rates will lead to a 3°C global temperature increase in their lifetime**.
- This lawsuit **seeks to hold nations accountable** for escalating emissions and advocates for measures such as reducing fossil fuel production and cleaning up global supply chains.
- The **climate crisis is termed a "child rights crisis"** by UNICEF, impacting education, health, and well-being.

### The age of climate lawsuit:

- The **European Convention on Human Rights, covering 47 member states**, faces two pending climate-related cases.
- In "**Verein Klimaseniorinnen Schweiz and Others v. Switzerland**," over 2,000 women contend that **Switzerland's insufficient climate action** threatens their lives and health.
- In the **second case, the former mayor of Grande-Synthe argues that France's inadequate climate response** violates the **right to life and respect for private and family life**.



- These cases **highlight** the growing recognition of climate change's impact on human rights and future generations' right to an equitable future.

#### What is Global Legal Action Network (GLAN):

- The Global Legal Action Network (GLAN) is a **unique non-profit organisation** that pursues innovative **legal actions across borders, challenging states and other powerful actors involved with human rights violations.**

### Topic 37. INDIA HOPES TO ESTABLISH CARBON CREDIT TRADING, VERIFIERS BY 2026

#### *Important for the subject: Environment*

The Carbon Border Adjustment Mechanism (CBAM) enters into application in its transitional phase from 1 Oct 2023. With EU's CBAM entering the transition phase, India prepares groundwork.

#### What is the transitional phase?

- A transitional period will apply for EU CBAM from 1 October 2023 to 31 December 2025, with solely quarterly reporting obligations; from 2026 onward, purchasing CBAM certificates will be required.
- Importers (customs declarants, indirect representatives) will be required to quarterly report embedded emissions in goods imported during that quarter of the calendar year, detailing direct and indirect emissions as well as any carbon price effectively paid in a third country.

#### What is CBAM?

- The EU CBAM is a climate measure that aims to address the risk of carbon leakage by ensuring equivalent carbon pricing for imports and domestic (EU) production that is Important for the subject to carbon costs under the **European Union Emission Trading System (EU ETS).**
- While the EU ETS applies to installations based in the EU and to certain production processes and activities (and will be extended further, as detailed below), CBAM will apply to certain goods imported into the EU.
- Payment of CBAM charges will be facilitated through the purchase and surrender of CBAM certificates, which will be priced at the weekly averages of EU ETS allowances auctions.

#### Indian status:

- India is unlikely to get a longer implementation period or special dispensation for its MSMEs, under the EU's stringent **Carbon Border Adjustment Mechanism (CBAM).**
- Indian government, however, hopes to be **ready with its system of accredited carbon verifiers** and a fully functional **carbon credit trading system (CCTS)**, to help Indian exporters of steel and aluminium meet the prescribed EU carbon norms by **January 2026** — when the proposed carbon taxes will actually kick in
- Items covered under CBAM include cement, iron and steel, aluminium, fertilizers,



electricity and hydrogen, in India, the hardest hit sectors could be iron and steel, and aluminium.

#### Carbon Verifiers:

- India is initiating discussions with the EU to get recognition for its carbon verifiers, which will be accredited by the **Bureau of Energy Efficiency** under the **Ministry of Power**.
- A Carbon Verifier can audit carbon content in goods exported from India to the bloc.
- Once the carbon verifiers and their processes are recognised by the EU, they will be able to **give out certifications** stating that a particular product being exported to the EU has gone through a certain level of carbon emissions.

### Topic 38. DAMSELFLY SPECIES FOUND IN WESTERN GHATS NAMED AFTER CLIMATE IMPACT ON INSECTS

*Important for the subject: Environment*



A new damselfly species has been discovered in Kerala's southern Western Ghats. Researchers from MIT-World Peace University in Pune named the insect 'Armageddon reedtail' or **protostictaarmageddonia**, to draw attention to the **global decline of insect populations** due to **rampant habitat loss and climate change**.

- The species was discovered **northeast of Thiruvananthapuram**. It has a captivating **dark brown to black body** with **vibrant greenish-blue eyes**, and half of its eight abdominal segments are marked with delicate pale blue markings.
- The new species is distinct from other damselflies. Its **only habitat** is **primary montane streams**, where it thrives beneath dense canopy cover.

#### Ecological armageddon:

- The term '**ecological armageddon**' is used to describe the **devastating decline of insect populations around the world**.
- This phenomenon, also called **insect apocalypse**, affects entire ecosystems because **insects pollinate, cycle nutrients and provide food for other animals**.
- **Odonatology**: The study of insects, such as dragonflies, that belong to the zoological group Odonata.

**MIT World Peace University:**

**Located in: Kothrud, Pune, Maharashtra.**

- It is a private institution officially named **Dr. Vishwanath Karad MIT World Peace University**. Established under the **Government of Maharashtra Act No. XXXV 2017** and recognized by the **University Grants Commission**. The university was formerly known as the **Maharashtra Institute of Technology** which was established in **1983**.

**Topic 39. THIS NEWLY DISCOVERED FISH CAN CHANGE ITS COLOUR LIKE A CHAMELEON**

*Important for the subject : Environment*



Scientists have recently discovered a **new fish species** from the **Milak river, Nagaland**.

**Details about the fish species:**

- The newly discovered species **Badis limaakumi** has been named after **Limaakum**, assistant professor and head of the zoology department at **Fazl Ali College, Nagaland**.
- Discovered in **Nagaland's Mokokchung district**. **Limaakum** found the fish during the project **Integrated Taxonomic Studies on The Fishes Found in The Rivers of Nagaland**. It belongs to the family of **Badidae**, a small freshwater fish found in streams with slow or moderate water flow. The fish has a **rapid colour-changing ability**.
- **Fourteen species of Badis** — six from the **Brahmaputra in West Bengal** and **B. badis** found in **Pakistan, Bangladesh, Nepal and Bhutan**; seven species from **Brahmaputra and Kaladan river** and one species **B. britzi** from **Sharavati river of the Western Ghats** — were already been identified. The new fish species adds the number to 15.
- **Fish from the Badis family** are known as **chameleon fish** for their ability to change colour. This helps them blend with the surroundings when under stress.

**Milak river:**

- **Milak River** is situated in **Mokokchung district in Nagaland, India**. The nearest town to this river is **Naga Town** and it has been located **40 kms south towards Tuli**. **Langpangkong Range** rises from above the **Melak plains** and is effectively marked by the gentle and rolling plains. **Tuli** is one of the most populous towns that are located near to this river in Mokokchung district in Nagaland. Main tributary of the **Milak river** is **Tsurong**. **Doyang river** is the **longest and the biggest river** of Nagaland.

**Topic 40. EVEN PLATYPUSES AREN'T SAFE FROM BUSHFIRES — A NEW DNA STUDY TRACKS THEIR DISAPPEARANCE**

*Important for the subject : Environment*



Platypuses are disappearing from waterways after bushfires in Australia.

**An evolutionary masterpiece- Platypus:**

They are a species of **monotremes** but **lay eggs**. They're **one of only five species of mammals** that lays egg — the other four are **echidnas**. They have **webbed feet for swimming**. And they have **electroreceptors** in their bills to help them find food in rivers and streams.

- They are **endemic** to **eastern Australia, including Tasmania**.
- It is **one of the few species of venomous mammals**, as the male platypus has a spur on the hind foot that delivers a venom, capable of causing severe pain to humans.

**Impact of bushfire on aquatic animals:**

- Research shows **aquatic invertebrates** (animals with no backbones) and **fish** can be **harmed by bushfire**, especially when rain follows fire.
- **Bushfires** burn and kill the vegetation that stabilizes the soil around rivers or streams. When rain follows fire, a lot of ash, soil and other debris can be washed into waterways.
- The water chemistry might change or there might be big increases in sediment, which makes the river or stream inhospitable for invertebrates and fish.
- As **platypuses** feed on **aquatic invertebrates** such as **yabbies**, these flow on effects of fire could also impact them.

**environmental DNA:**

- Just as people leave traces behind as they move through the environment (such as fingerprints, hair and skin cells), so do animals.
- These traces contain genetic material that can be analysed to identify the likely source. These are known as the '**Environmental DNA**'.

## Topic 41. TWO OF EVERY FIVE AMPHIBIANS THREATENED WITH EXTINCTION, REVEALS STUDY

*Important for the subject : Environment*

A new paper analyzing two decades of data from around the world has found that **climate change is emerging as one of the biggest threats to frogs, salamanders, and caecilians.**

**About the study:**

- The assessment evaluated the **extinction risk** of more than **8,000 amphibian species** from all over the world, including **2,286 species evaluated for the first time.** More than **1,000** experts across the globe.
- Nearly **41% of all amphibian species** are currently **globally threatened** while **26.5% of mammals, 21.4% of reptiles** and **12.9% of birds** are threatened.
- These data will be published on the **IUCN Red List of Threatened Species.** **Amphibian Red List Authority** is a branch of the **Amphibian Specialist Group** of the **International Union for Conservation of Nature's Species Survival Commission** and managed by **Re:wild**, a wildlife conservation group.

**Why are amphibians particularly threatened by climate change?**

- The data revealed that **two out of every five amphibians are threatened with extinction.** **Climate change** was the primary threat for 39% of these species.
- **Amphibians** are particularly **sensitive to changes in their environment.** **Amphibians** are becoming **climate captives** i.e. unable to move very far to escape the climate change-induced increase in frequency and intensity of extreme heat, wildfires, drought and hurricanes.

**Threats include:**

- **Habitat destruction and degradation** as the result of **agriculture** (crops, livestock like cattle and livestock grazing, and silviculture), **infrastructure development** and other **industries** are the most common threats.
- Habitat destruction and degradation affect **93% of all threatened amphibian species.** **Disease** caused by the **chytrid fungus** – it decimated amphibian species in **Latin America, Australia,** and the **United States** – and **overexploitation.**
- **Three out of every five salamander species** are threatened with **extinction** primarily as the result of **habitat destruction and climate change,** making them the **world's most threatened group of amphibians.**
- **North America** is home to the most biodiverse community of salamanders in the world.

**Already extinct amphibian species:**

- **Four amphibian species** were documented as having **gone extinct since 2004** — the **Chiriquí harlequin toad** (*Atelopus chiriquiensis*) from **Costa Rica,** the **sharp-snouted day frog** (*Taudactylus acutirostris*) from **Australia,** **Craugastor myllomyllon** and the **Jalpa false brook salamander** (*Pseudoeurycea exspectata*), both from **Guatemala.**
- **Twenty-seven additional critically endangered species** are now considered **possibly**

extinct, bringing the total to more than **160 critically endangered amphibians** that are considered possibly extinct.

- The assessment also found that **120 species improved their Red List status since 1980.**

**An action plan for conservation:**

- Of the **63 species** that improved as the direct result of conservation action, most improved due to **habitat protection and management.** Amphibians play a key role in keeping **carbon-storing ecosystems healthy.**

**Species survival commission (SSC):**

- The **IUCN Species Survival Commission (SSC)** works independently and with the different IUCN Units to build knowledge on the status of species and threats to them and to provide advice, develop policies and guidelines and facilitate conservation planning.
- Through this work, SSC catalyzes conservation action and enables IUCN to influence policy and assist societies in biodiversity conservation.
- **Their work include:** SSC members provide scientific advice to conservation organisations, government agencies and other IUCN members, and support the implementation of multilateral environmental agreements.
- **Vision:** “A just world that values and conserves nature through positive action to both prevent the loss and aid recovery of the diversity of life on earth.”

**Re:Wild:**

- **Re:wild** launched in **2021** combining more than three decades of conservation impact by **Leonardo DiCaprio** and **Global Wildlife Conservation**, leveraging expertise, partnerships and platforms to bring new attention, energy and voices together.
- **Re:wild’s mission** is to protect and restore the wild to build a thriving Earth where all life flourishes.

**Topic 42. INVASIVE PLANT SPECIES THREATEN 66% OF INDIA’S NATURAL SYSTEMS**

*Important for the subject: Environment*

About **66 per cent** of the country’s **natural systems** are **threatened with invasive species**, according to the report published in the Journal of Applied Ecology. The study offered the **first account indicating distribution status of high-concern invasive plants spread across the country.**

The findings are a result of a **national-level survey conducted in India.** The **11 high-concern invasive plant species** that showed presence in **20 states** of the country included **Lantana camara, Prosopis juliflora** and **Chromolaena odorata.**

- The economic loss due to **biological invasions** would cost the **Indian economy up to \$182.6 billion.**
- The data indicated that **invasive cover increases with temperatures up to a threshold and declines with increasing rainfall, seasonal vegetation opening and human modification index.**
- **Human modification index** is based on **13 anthropogenic sensors** that provide



a cumulative measure on impact of the human modification of terrestrial lands across the globe.

#### Spread and threats of Invasive Alien Species (IAS):

- **Susceptibility to invasive species:** Highest in **Savannas (87%)**, followed by **moist grasslands (72%)**, **dry deciduous forests (72%)** and **evergreen forests** (least susceptible at 42%).
- The suitability of individual alien plants and its drivers varies for each species. **Some invasive species are:** *Prosopis juliflora*, *Senna tora*, *Xanthium strumarium*, *Mesosphaerum suaveolens*, *Mikania micrantha* and *Ageratina adenophora*.
- **Invasive species that have invaded most are:** *Lantana camara* (Maximum expanse at 50%), ***Mikania micrantha*** (least expanse at 13%).
- **Nilgiri Biosphere Reserve in Western Ghats** was one of the **largest impacted hotspot areas** due to invasion dominated by ***Lantana camara***, ***Prosopis juliflora*** and ***Chromolaena odorata***.
- **Southern Eastern Ghats** were found to host the most densely invaded landscapes with maximum vegetation of ***Prosopis juliflora*** and ***Lantana camara***.
- **Central Indian Highlands:** Invaded along the **ecocline** between dry and moist systems by ***Prosopis juliflora***.

#### Causes of these invasions:

- Human modifications, shifting soil moisture regime, historical propagation of invasive plants and altered cycles of natural disturbances.
- **Human modifications include:** Increasing work population densities and proportional increase of demand for food, infrastructure, energy and socio-ecological drivers.

### Topic 43. CLIMATE FINANCE BEYOND \$100 BILLION: ARE WE CLOSE TO AGREEING ON A NEW CLIMATE FINANCE TARGET?

#### *Important for the subject: Environment*

Discussions on the **New Collective Quantified Goal (NCQG)** on climate finance were conducted in **Geneva** from September 30-October 2, 2023, through the **7th Technical Expert Dialogue (TED 7)** under the **Ad Hoc Work Programme** of the **United Nations Framework Convention on Climate Change (UNFCCC)** on NCQG.

- **Current climate finance goal is: \$100 billion**, decided by developed countries in **2009** at the **15th Conference of the Parties (COP)** to **UNFCCC held in Copenhagen**.
- So far, the **Organization for Economic Cooperation and Development (OECD)** has provided data on the progress of the **\$100 billion goal**.
- The primary objectives of **TED 7** were **twofold:** Options for ways to reflect qualitative elements of NCQG, and options for setting up transparency arrangements to track progress towards achieving NCQG.

#### **Enhanced Transparency Framework (ETF) of the Paris Agreement:**

- Starting no later than **2024**, as part of the **enhanced transparency framework (ETF)**, **all countries who have ratified the Paris Agreement** will follow a **single, universal**



**transparency process.**

- The information gathered under the **ETF** will provide a clear understanding of climate change actions and support, and ultimately contribute to the **global stocktake process** that will periodically take stock of the implementation of the **Paris Agreement**.
- By design, the **ETF** covers **all aspects of the Paris Agreement**, including tracking progress of implementation and achievement of nationally determined contributions under **Article 4**.
- Challenges with the **ETF** (one of the primary modes of tracking climate finance progress) mentioned by **OECD included:**
- Data inconsistencies due to differences in methodology followed by different parties. Data gaps due to the lack of agreement on which sources of finance are to be included in NCQG and Gaps between when information on projects is reported and actually available for review

**Recommendations to address transparency gap in climate financing**

- The call for a definition of climate finance Transparency of tracking progress around **private finance flows** and providing **publicly accessible data** in formats that may be understood by **non-state actors** across the world.
- The use of online tools for continuous reporting on project completions. A demand for setting a **quantum of \$1.1 trillion per year from developed to developing countries**, excluding arrears from the \$100 billion promise.

**Article 2.1(c) & Article 4 of the Paris Agreement:**

- **Article 2.1(c)** calls on governments to ‘make financial flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development’.
- This is a pre-condition for achieving the Agreement’s adaptation and mitigation goals, including limiting global warming to 1.5°C above pre-industrial levels.
- **Mitigation (Art. 4)** – The Paris Agreement establishes binding commitments by all Parties to prepare, communicate and maintain a nationally determined contribution (NDC) and to pursue domestic measures to achieve them.

**New Collective Quantified Goal (NCQG):**

- In accordance with **Article 9, paragraph 3, of the Paris Agreement**, the Conference of the Parties serving as the meeting of the Parties to the **Paris Agreement** (CMA) shall set a **new collective quantified goal (NCQG)** from a **floor of USD 100 billion per year**, taking into account the needs and priorities of developing countries, prior to 2025.

**NCQG is set up around the following elements:**

- Ad hoc work programme Submissions by Parties and non-Party stakeholders High-level ministerial dialogues Stock-takes and guidance by the CMA

**Topic 44. MODELLING STUDY SHOWS HOW CONTROVERSIAL GEOENGINEERING MAY AFFECT GLOBAL FOOD PRODUCTION**

*Important for the subject: Environment*

**Implementing a controversial climate intervention** could likely create **inequities in food production**, benefitting some and harming others, a new study published in journal Nature

Food warned.

The intervention proposed to counter climate change is a **geoengineering technology** called **stratospheric aerosol intervention (SAI)**.

#### **Stratospheric aerosol intervention (SAI):**

- **SAI mimics volcanic eruptions by injecting sulphur dioxide** into the **stratosphere** (layer of atmosphere extending from about 10 kilometres to 50 km in altitude), where it **oxidizes to form sulphuric acid**, which then forms **reflective aerosol particles**.
- **Example: Mount Pinatubo** in the **Philippines** erupted in 2001 and **injected about 15 million tonnes of sulphur dioxide** into the stratosphere, which then formed **aerosol particles** which **caused a drop in the average global temperature of about 0.6 degrees Celsius** over the next 15 months.
- Injections would need to occur continuously to maintain decreased solar radiation and surface temperature.

#### **Impact of SAI:**

- It will affect agriculture in different ways in different locations and other climate factors important to agriculture such as precipitation and solar radiation.
- Cold regions will benefit from climate change so SAI will impact these regions negatively. While agricultural production in the tropics could see an increase with climatic interventions like SAI.
- Under **continued uncontrolled climate change, crop production is favored in cold, high-latitude areas** such as Canada, Russia, the United States' northern border states, Scandinavia and Scotland.

#### **Other geoengineering techniques include:**

##### **Bio-energy with carbon capture and storage (BECCS)**

- It is the process of extracting bioenergy from biomass and capturing and storing the carbon, thereby removing it from the atmosphere. The carbon in the biomass comes from the greenhouse gas carbon dioxide (CO<sub>2</sub>) which is extracted from the atmosphere by the biomass when it grows.
- Energy is extracted in useful forms (electricity, heat, biofuels, etc.) as the biomass is utilized through combustion, fermentation, pyrolysis or other conversion methods.

##### **Ocean fertilization or ocean nourishment**

- Ocean fertilization is a type of climate engineering based on the purposeful introduction of nutrients to the upper ocean to increase marine food production and to remove carbon dioxide from the atmosphere.
- A number of techniques, including fertilization by iron, urea and phosphorus have been proposed.

##### **Soil carbon sequestration (SCS)**

- Soils can serve as a sink for carbon dioxide since atmospheric concentrations of carbon dioxide have crossed 410 parts per million and oceans are already turning acidic.
- Carbon sequestration in soils has the potential to offset GHG emissions from fossil fuels

by up to 15% annually.

- Soil organic carbon (SOC) comes from plants, animals, microbes, leaves and wood, mostly found in the first metre or so.
- There are many conditions and processes that determine changes to SOC content including temperature, rainfall, vegetation, soil management and land-use change.

### Marine cloud brightening (MCB)

- MCB involves reflecting sunlight away from the earth in some way. In this case, sea salt or other particles are sprayed into marine clouds to make them thicker and more reflective.

### Cirrus cloud thinning (CCT)

- CCT is almost the opposite of marine cloud brightening. High-altitude Cirrus clouds are thin and wispy, so they don't reflect much solar radiation back into space, and instead trap long-wave radiation on earth.
- CCT proposes thinning them further through cloud seeding, letting more long-wave radiation escape.

## Topic 45. SAVE THE CARBON BUBBLE: INDIA'S VOLUNTARY CARBON MARKET MUST BE REGULATED AND MADE TO CONTRIBUTE TO ITS CLIMATE GOALS

*Important for the subject :Environment*



In May this year, the **Zimbabwe government** declared **all voluntary carbon credit schemes “null and void”**, causing huge consternation to the developers of the projects.

### Carbon markets:

- The carbon market should be a real market, not a secret pact between a buyer and seller
- If not properly evaluated, projects under the carbon market can lead to more GHG emissions
- Countries have sold off all cheap options of emission reductions. They would now be in the balance sheet of foreign entities and will not be able to make investments in hard-to-abate options

### Regulation of voluntary carbon markets across globe:

- Countries that have announced some kind of regulations to their voluntary carbon markets are: **Zimbabwe, Papua New Guinea, Rwanda, Indonesia and Nigeria.**

### India’s notification on carbon trade:

- India is enacting legislations and policies by **different ministries**—and it is not clear how coordinated these actions are—to create and regulate a carbon credits market and to incentivise people to join a green credits programme.

### The Union power ministry issued a notification on its Carbon Credit Trading Scheme.

- Under this, the government would constitute a **National Steering Committee for the Indian carbon market**. The committee would be tasked with the **governance of the Indian carbon market** and **direct oversight of its functioning**.
- The **Bureau of Energy Efficiency**, an agency under the **power ministry**, would be the designated administrator of the **Indian carbon market**. The **Grid Controller of India Limited** shall act as the **registry** and the **Central Electricity Regulatory Commission** will be the.
- The notification is silent on the **voluntary carbon market** or the issue of export of credits. **The Union environment ministry notified the Draft Green Credit Programme Implementation Rules, 2023.**
- The programme is a **domestic voluntary market** that **incentivises voluntary environmental actions** so that it promotes the government’s **Mission LiFE (Lifestyle for Environment)**.
- It has listed actions, including planting trees, which would get **“green credits”** and is described as **“singular unit of an incentive provided for a specified activity delivering a positive impact on the environment”**.
- It goes on to say that an **activity generating green credits under the green credit programme** may also acquire **carbon credits** for the same activity under the **carbon market**. These green credits will be traded on a domestic market platform.
- The **Indian Council of Forestry Research and Education** will be the administrator, who will create technical or sectoral committees to develop methodologies, standards and processes for registration of green credit activities and grant of green credits.
- It opens the compensatory afforestation activities by private entities to incentives and participation in the domestic carbon market.



- As an implementation measure for the Paris Agreement, the government in February 2023, issued a list of activities that could be considered for trading of carbon credits under bilateral programmes under Article 6.2.
- This list includes renewable projects, including solar projects with storage, offshore wind, hydrogen and the best available technologies for the hard-to-abate sector.
- In this list, the government's effort is to ensure that **bilateral trading of carbon credits is in the high-end sectors**, which would be expensive for India to undertake.

**Topic 46. OVER \$9 TRILLION INVESTMENTS IN INFRASTRUCTURE RESILIENCE, NET ZERO NEEDED BY 2050 TO MITIGATE CLIMATE IMPACT: CDRI**

*Important for the subject :Environment*

**Biennial Report on Global Infrastructure Resilience: Capturing the Resilience Dividend** released by **Coalition for Disaster Resilient Infrastructure (CDRI)**.

**About the report- Global Infrastructure Resilience: Capturing the Resilience Dividend:**

**Published by: Coalition for Disaster Resilient Infrastructure (CDRI).**

- The **Global Infrastructure Resilience Report** addresses a crucial void in the ongoing discourse on infrastructure resilience by providing a compelling argument from economic, financial, and political perspectives for prioritizing investments in resilience. It brings together an unprecedented collection of evidence, delivering a strong case to significantly increase infrastructure resilience investments.

**Key findings:**

- **Climate change** may lead to an estimated **global average annual loss (AAL) in infrastructure sectors and buildings** of between **\$732 and \$845 billion**.
- Around **14 percent** of **2021- 2022** global gross domestic product is at risk. While climate change is expected to increase **AAL by 11 per cent in high-income countries**, it may increase by **12-22 per cent in middle-income countries** and **33 per cent in low-income countries**.
- The report advocated for nature-based infrastructure systems, which have average costs of only 51 per cent of gray infrastructure projects.

**About CDRI:**

- **CDRI** is a global partnership of national governments, United Nations agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and research institutions.
- It **aims** to increase the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.
- It was launched in **2019**, at the **United Nations Climate Action Summit in New York**. It is the **Government of India's second major global initiative** after the **International Solar Alliance**, and it demonstrates India's leadership in climate change and disaster resilience issues.

**Members:**

- Since its inception, **31 countries, 6 international organisations** and **2 private sector organisations** have joined **CDRI** as members.
- **6 International Organisations:** Asian Development Bank (ADB), World Bank Group, United Nations Development Programme (UNDP), United Nations Office for Disaster Risk Reduction (UNDRR), European Union, European Investment Bank.
- **2 Private Sector Organisations:** The Private Sector Alliance for Disaster Resilient Societies and Coalition for Climate Resilient Investment.

#### Other initiatives of CDRI:

##### Infrastructure For Resilient Island States (IRIS):

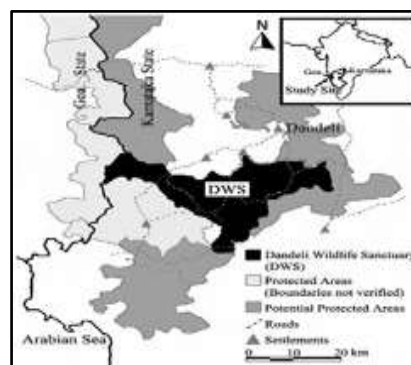
- **IRIS** was jointly launched at the **World Leaders Summit** at **COP26** in **Glasgow, UK**, by the **Prime Ministers of India, UK, Australia, Fiji, Jamaica** and IRIS is a dedicated initiative that aims to support **Small Island Developing States (SIDS)** in achieving sustainable development through a systematic approach to resilient, sustainable, and inclusive infrastructure.

##### Global Infrastructure Risk Model and Resilience Index, or GIRI:

- A core initiative of the **Coalition for Disaster Resilient Infrastructure (CDRI)**. **GIRI** is the **first ever fully probabilistic risk assessment** covering **global infrastructure sectors**.
- It is expected that it will **inform planning, decision making and investment in disaster and climate resilient infrastructure** by providing credible and fully comparable probabilistic risk metrics that cover every country and territory in the world.
- The **GIRI** will measure resilience in **major infrastructure sectors**, such as **power and energy, transport, telecommunications, and water**, as well as in **social infrastructure** such as **education and health**.
- The **GIRI** will estimate risk to **major hazards** such as **tropical cyclones, flood, drought, landslide, earthquake, and tsunami**, considering a range of climate change scenarios and will also consider the capacity of countries to manage and reduce the risks they face.

### Topic 47. CLIMATE CRISIS IN FORESTS: DANDELI LOSING ITS DISTINCTIVE GRASSES & HORNBILLS TO ERRATIC WEATHER

*Important for the subject :Environment*





In recent years, rising temperatures and changing rainfall patterns in the **Dandeli forest area** are impacting the forest ecosystem and the people living around them and dependent on them.

#### **Dandeli forests and Wildlife sanctuary:**

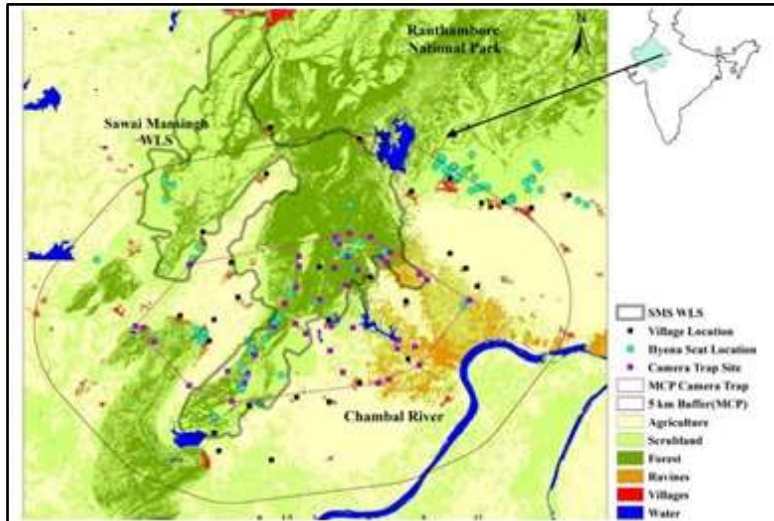
- The **Dandeli forest** in **Uttara Kannada district** of **Karnataka** is known for its forest grasses, birds and cattle herders.
- Along with neighboring **Anshi National Park**, the sanctuary was declared part of the **Anshi Dandeli Tiger Reserve in 2006**.
- It is also an **elephant reserve** under the **Project elephant**. There are around **100 different types of grasses** that grow in the undergrowth of the **Dandeli forest**.
- These are the primary sources of food for the herbivore population of the forest such as **barking deer, chital (spotted deer) and elephants**.
- The wildlife sanctuary is known for its **great hornbill** (great Indian hornbill or great pied hornbill), the **Malabar pied hornbill** and the elusive **black panther**.

#### **Changes in the ecology of dandeli forests and its impact:**

- The **grasses** are being **replaced by eupatorium weed**, which is not eaten by the herbivores and is **prone to fires**. **Eupatorium** is a **non-native species** introduced in the area during the British rule for decorative purposes.
- During the colonial era the **lush semi-evergreen and evergreen forests** were replaced by **monoculture teak plantations** and the general character of the forest also changed from **semi-evergreen** to **moist deciduous**.
- The British had **banned controlled fires in the forest**, which was practiced by local farmers for **slash and burn cultivation**.
- This, in turn, led to there being **uncontrolled forest fires**. This is because **dry leaves, tree limbs and other inflammable debris** would be removed during controlled fires, limiting the chances of wildfires.
- The flowering and fruiting patterns of the more than 40 different varieties of **fig trees** that grow in **Dandeli**, have changed. The **fig fruits** are the **main source of nutrition for most of the local birds** in the area, especially the **Malabar pied hornbill**.
- **Honey collection** in the area has reduced in recent years as the **ficus trees are not flowering properly**.

**Topic 48. SCAVENGING HYENAS SAVE CARCASS DISPOSAL COSTS**

*Important for the subject: Environment*



A new study estimates the **monetary benefits** of **striped hyenas** scavenging on livestock carcasses and wild prey in **Rajasthan’s Sawai Mansingh Wildlife Sanctuary**.

- The waste disposal services provided by **striped hyenas** may also play a role in **hindering disease transmission**.
- Educating local communities on the monetary benefits of striped hyenas scavenging services may play a role in removing their negative image and aid in the conservation of these carnivores.

**Hyenas:**

**Four species of hyenas** exist in the world, of which, **one, the striped hyena**, is found in **India**.

- Sporting a dog-like appearance, **striped hyenas** (*Hyaena hyaena*) are **large, solitary carnivores** that inhabit **arid and semiarid landscapes** from **East Africa to South Asia**.
- The **shy, nocturnal animals** rarely hunt or kill livestock. Instead, **they feed opportunistically on remains of animals predated by larger carnivores** such as tigers and leopards and discarded domestic livestock carcasses.
- The main diet of the striped hyenas is **livestock**, mainly **cows and buffaloes** but wild prey such as **nilgai, sambar, wild boar, and chital** also contribute to the diet of striped hyenas.

**Ecological significance of Hyenas:**

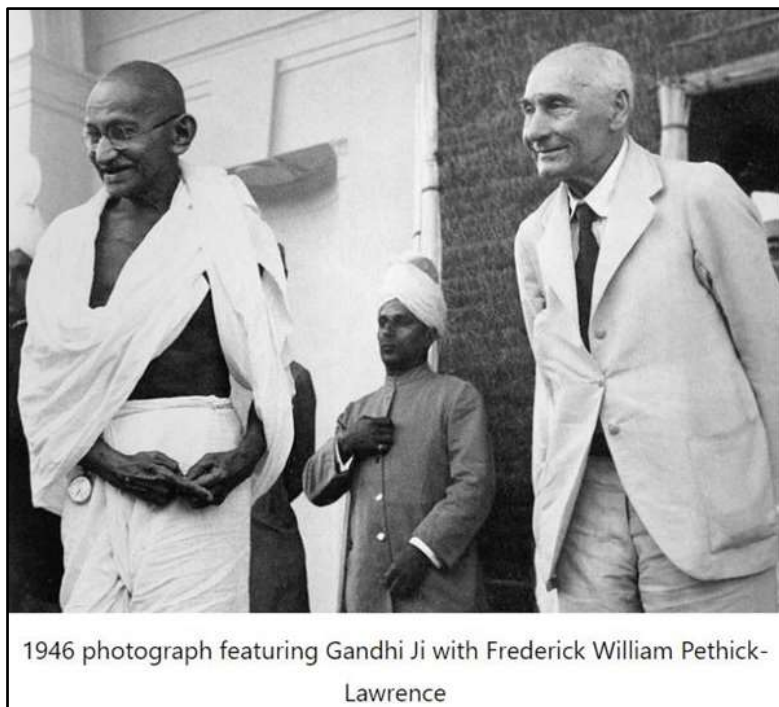
- Owing to their **powerful jaws and teeth**, hyenas have a **unique ability to crush and consume bones**. Without bone scavengers, skeletons would take many years to decompose depending on the environmental conditions.
- The **concentration of calcium and phosphorus**, key components of bones, in hyena

fecesis between 1,000 to 20,000 times higher than in local soils in two reserves in southern Africa.

- Consequently, the soils in which hyenas defecate will become enriched with these nutrients, changing the fertility of the landscape with important implications for plant growth, community composition and animal diet quality.

**Topic 49. THE STORY OF MAHATMA GANDHI'S PORTRAIT ON INDIAN BANKNOTES**

*Important for the subject: Economy*



1946 photograph featuring Gandhi Ji with Frederick William Pethick-Lawrence

**The origins of Gandhi's image on Indian currency:**

The portrait of Mahatma Gandhi on Indian banknotes is not a caricature but a cut-out from a 1946 photograph with British politician Lord Frederick William Pethick-Lawrence.

The photo was chosen for Gandhi's suitable smiling expression. The photographer and the person who selected the photo remain unidentified.

- The Reserve Bank of India's Department of Currency Management is responsible for designing rupee notes, with approval required from the central bank and the Union government.
- Gandhi's image first appeared on Indian currency in 1969 for his 100th birth anniversary, and a series of Rs 500 notes featuring him was introduced in 1987.

**What was the banknotes for independent India**

- After India gained independence in 1947, the Reserve Bank of India (RBI) initially

continued issuing notes featuring King George VI.

- However, the government introduced a new design for the 1-rupee note in 1949, replacing King George with the Lion Capital of Ashoka Pillar at Sarnath in the watermark window.
- In 1950, the first Republic of India banknotes were issued in denominations of Rs 2, 5, 10, and 100, all featuring the Lion Capital watermark.
- Over the years, higher denomination notes featured motifs representing different aspects of India's culture and development.
- In the 1990s, the RBI replaced the older currency notes due to concerns about counterfeiting using modern reprographic techniques. Mahatma Gandhi's portrait was chosen for its national significance.
- The 'Mahatma Gandhi Series' was launched in 1996 with improved security features.
- In 2016, the 'Mahatma Gandhi New Series' of banknotes was introduced, featuring Gandhi's portrait and the Swachh Bharat Abhiyan logo on the back, along with enhanced security features.

**What are the latest demand to include others on banknotes:**

- Various suggestions have been made to feature different personalities on Indian currency notes besides Mahatma Gandhi. These suggestions include **Lord Ganesha and goddess Lakshmi, Rabindranath Tagore, and APJ Abdul Kalam.**
- However, the RBI, backed by the Finance Minister and former RBI governor, has upheld Gandhi's representation of India's ethos on the currency notes, considering other options potentially controversial.

### Topic 50. ANDHRA PRADESH PLANS TO PROVIDE LEGAL GUARANTEE TO MSP

*Important for the subject : Economy*

Andhra Pradesh plans to provide legal guarantee to Minimum Support Price (MSP). Andhra Pradesh is set to enact a law to ensure Minimum Support Price (MSP) for farmers which simultaneously envisages heavy penalty including a jail term for defaulters.

- The relevant bill is expected to be introduced in the next session of the State Assembly. Precedents
- Before Andhra Pradesh, States such as Maharashtra, Punjab and Rajasthan have made legislative arrangements for ensuring MSP but in a very limited manner. There has been a strong demand from the farming community for a legal guarantee.

**Draft Bill:**

- The draft bill defines **MSP as a price notified by the Government under this Act** regarding the farmers' produce, which **shall not be lower than the price, if any, notified by the Union Government** for the same produce.
- The draft bill proposes that MSP notified under this Act shall be **enforceable on every transaction** in the State with regard to such farmers' produce, whether such transactions occur in markets, co-operative societies and any other collective activities/transactions.
- The draft bill also prescribes that any person who enters into a transaction below the

MSP will be liable for a fine of ₹50,000 for a first-time violation.

- In case of second and subsequent violations, the same will be liable for imprisonment up to six months or a fine of ₹1 lakh or both. Non-production of documents before the controlling officer could lead to a penalty between ₹10,000-50,000 and a three-month jail term.

## MSP

- MSP is the **minimum price paid to the farmer for procuring food crops**. It offers an assurance to farmers that their realisation for the agricultural produce will not fall below the stated price.
- The government uses the MSP as a **market intervention tool to incentivise production of a specific food crop** which is in short supply.
- It also protects farmers from any sharp fall in the market price of a commodity. MSPs are usually **announced at the beginning of the sowing season** and this helps farmers make informed decisions on the crops they must plant.
- MSP is computed on **the basis of the recommendations made by the Commission for Agricultural Costs and Prices (CACP)**.
- It considers factors such as the cost of production, change in input prices, market price trends, demand and supply, and a reasonable margin for farmers.
- The Centre has increased the MSP of kharif crops for 2020-21 crop year in line with the **principle of fixing MSPs at a level which is at 1.5 times the cost of production** that was announced in Union Budget 2018-19.
- Concerted **efforts were made over the last few years to realign the MSPs in favour of oilseeds, pulses and coarse cereals** to encourage farmers shift to larger area under these crops and adopt best technologies and farm practices, **to correct demand – supply imbalance**.
- The added focus on nutri-rich nutri-cereals is to incentivize its production in the areas where rice-wheat cannot be grown without long term adverse implications for groundwater table.
- Crops covered under MSP: **Paddy, Jowar, Bajra, Ragi, Maize, Tur, Moong, Urad, groundnut, sunflower seed, soyabean, nigerseed, Cotton and sesamum**
- Besides, the **Umbrella Scheme “Pradhan Mantri Annadata Aay Sanraks Han Abhiyan” (PM-AASHA)** announced by the government in 2018 will aid in **providing remunerative return to farmers for their produce**.
- The Umbrella Scheme consists of three sub-schemes i.e.
- Price Support Scheme (PSS) Price Deficiency Payment Scheme (PDPS)
- Private Procurement & Stockist Scheme (PPSS) on a pilot basis.
- The National Food Security Act, 2013 (NFSA) **provides a legal basis for the public distribution system (PDS)** that earlier operated only as a regular government scheme.
- The NFSA made access to the PDS a right, entitling every person belonging to a “priority household” to receive 5 kg of food grains per month at a subsidised price not exceeding Rs 2/kg for wheat and Rs 3/kg for rice.
- Priority households were further defined so as to cover up to 75% of the country’s rural population and 50% in urban areas.
- **MSP, by contrast, is devoid of any legal backing**. Access to it, unlike subsidised grains through the PDS, isn’t an entitlement for farmers. They **cannot demand it as a matter of right**.
- It is **only a government policy that is part of administrative decision-making**. The



government declares MSPs for crops, but there's no law mandating their implementation.

- The **Centre currently fixes MSPs for 23 farm commodities** — 7 cereals (paddy, wheat, maize, bajra, jowar, ragi and barley), 5 pulses (chana, arhar/tur, urad, moong and masur), 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower and nigerseed) and 4 commercial crops (cotton, sugarcane, copra and raw jute) — based on the CACP's recommendations.
- The **only crop where MSP payment has some statutory element is sugarcane**. This is due to its pricing being governed by the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act.
- After receiving the feed-back from them, the **Cabinet Committee on Economic Affairs (CCEA)** of the Union government takes a final decision on the level of MSPs and other recommendations made by the CACP.
- **Procurement: The Food Corporation of India (FCI)**, the nodal central agency of the Government of India, along with other State Agencies undertakes procurement of crops.

#### **FAIR AND REMUNERATIVE PRICE (FRP)**

- Fair and remunerative price (FRP) is the **minimum price at which rate sugarcane is to be purchased by sugar mills from farmers**.
- The FRP is **fixed by Union government** on the basis of recommendations of Commission for Agricultural Costs and Prices (CACP). The 'FRP' of sugarcane is **determined under Sugarcane (Control) Order, 1966**.
- Recommended FRP is arrived at by taking into account various factors such as cost of production, demand-supply situation, domestic & international prices, inter-crop price parity etc.
- This will be **uniformly applicable all over the country**.
- Besides FRP, some states such as Punjab, Haryana, Uttarakhand, UP and TN announce a **State Advised Price**, which is generally higher than the FRP.
- The price fixed by the **central government is the 'minimum price' and the one fixed by state government is the 'advised price'** which is always higher than the 'minimum price' fixed by the centre.

#### **Topic 51. OIL FIRMS RAISE ATF AND COMMERCIAL LPG PRICES**

##### ***Important for the subject :Economy***

Jet fuel or ATF and commercial prices raised. Jet fuel or ATF price on Sunday was hiked by 5 per cent and commercial cooking gas (LPG) rates were raised by a steep ₹209 per 19kg cylinder, in line with the firming up seen in international benchmarks. However, the price of domestic LPG the one used in household kitchens for cooking purposes remained unchanged at ₹903 per 14.2kg cylinder.

##### **How is ATF priced?**

- India has introduced a new pricing mechanism for ATF (jet fuel) beginning Q3 FY23.



- The new price mechanism – which replaces the **Import Parity Price based system** – will be benchmarked on the **MOPAG or Mean of Platts Arab Gulf** and could bring in more parity between global crude price and jet fuel price in India.
- Under the earlier system price reductions were not transferred to domestic market in a timely manner.
- The new pricing mechanism will be “more transparent” and cushion airlines from ATF price fluctuations.
- MOPAG pricing refers to paying the **same price that is paid in Dubai** for ATF.

### **LPG pricing:**

- The LPG prices are predominantly decided based on LPG prices in the global market and a mechanism called **Import Parity Price (IPP)** is used for price determination.
- The formula for import parity price assumes that LPG is imported within the country.
- Import Parity Price is based on Saudi Aramco’s LPG price Import Parity Price is based on Saudi Aramco’s LPG price and includes costs such as: custom Duty freight costs etc. These above costs are quoted in dollars and converted to rupees.
- Onto these are added the domestic costs, Goods and Service Tax (GST) , bottling charges, logistic costs, dealer commission, marketing costs, OMC margins etc.
- The above costs give the retail selling price of an unsubsidised LPG cylinder. The oil corporations are empowered to change prices every month.

---

### **Topic 52. MCA’S NEW PORTAL FOR CHECKING FOR UNCLAIMED SHARES, DIVIDENDS**

#### ***Important for the subject: Economy***

Checking for unclaimed shares, dividends to become easier with a new integrated IT platform.

- MCA’s new integrated IT platform to enable users to deep dive for details of unclaimed securities.
- Setting-up the integrated portal was announced by the Finance Minister in her budget speech earlier this year.

#### **What happens to unclaimed dividend?**

- Dividends are declared out of profits made by a company and distributed to shareholders. But if they are unclaimed for more than seven years, they are transferred by the company to the **Investor Education and Protection Fund Authority (IEPF)**.
- Government had set up the IEPFA in September 2016 for administration of **Investor**

**Education and Protection Fund (IEPF).** Provisional data upto end November 2022 showed that the total balance in the IEBF stood at ₹ 5,685 crore. Total number of unclaimed shares in IEPF stood at 117 crore shares.

- There is very little awareness among investing public on the existence of IEPFA and the fact that they can reclaim shares or unpaid dividends that have been transferred by companies to the Investor Education Protection Fund (IEPF) on account of various reasons.

#### **What the portal will provide?**

- It will allow checking the status of shareholdings or unclaimed dividend that has been transferred to the Investor Education Protection Fund Authority (IEPFA) in an easy manner.
- The integrated IT portal that may lets you deep dive not just for your lost wealth by searching on various parameters like name, folio number or district etc.
- MCA has from time-to-time taking measures to streamline the working as well as refund process at IEPFA. In January 2022, MCA had empowered IEPFA to liquidate shares held by it and acquired on account of dividend remaining unpaid or unclaimed by the shareholder for a period of seven years.

#### **IEPFA'S role:**

- IEPFA was also empowered to offer the shares to the acquiring entity in case of amalgamation, share exchange, conversion of securities and also receive money on behalf of minority shareholders.
- Earlier IEPFA could surrender the shares only in case of delisting of securities or when the company was getting wound up.
- MCA had also then said that the money received on behalf of the minority shareholders should be credited to the IEPF and a separate ledger account should be maintained for such proceeds.

#### **Investor Education and Protection Fund (IEPF)**

- It has been established under the Securities and Exchange Board of India Act, 1992. The amounts such as contribution made by SEBI, grants and donations given to the Fund by the Central Government, State Government or any other entity approved for the purpose, etc are required to be transferred to the IEPF.
- The Fund shall be utilised for the purpose of protection of investors and promotion of investor education and awareness in accordance with SEBI regulations.
- The Fund is also utilised for distribution of money in cases where SEBI deems fit to make restitution to eligible and identifiable investors who have suffered losses resulting from violation of securities laws, be utilised only for the purposes of such restitution.

#### **Advisory Committee of the fund**

- SEBI shall constitute an advisory committee for recommending investor education and protection activities that may be undertaken directly by SEBI or through any other agency, for utilisation of the Fund.
- The Committee shall consider investor education and protection activities keeping in view the purposes and submit its recommendations thereon to SEBI.

## Topic 53. TREDS PLATFORMS IN INDIA SEE GOOD GROWTH IN TRANSACTIONS

*Important for the subject : Economy*

Treds platforms in India thrives with a remarkable 70 transaction surge.

The **Trade Receivables Discounting System** platforms, introduced by RBI to address MSME liquidity challenges, are thriving in India, with both transaction values and throughput witnessing significant increases

Corporates are recognising the benefits of TReDS, including price discovery and timely payments to MSMEs.

Growing awareness around its benefits are increasing the participation from corporates and Micro, Small and Medium Enterprises (MSMEs).

### **What is Treds?**

- Introduced by RBI in 2017 to address the **liquidity challenges** of MSMEs, TReDS is an electronic platform for facilitating the **financing/discounting of trade receivables of MSMEs**.
- The objective was to solve the problem of delayed payments to MSMEs by providing **factoring** services. RBI set up TReDS under the **Payment and Settlement Systems (PSS) Act, 2007**.
- It is a platform for uploading, accepting, discounting, trading and settling invoices / bills of MSMEs and facilitating **both receivables as well as payables** factoring (**reverse factoring**).
- MSME sellers, corporate and other buyers, including Government Departments and PSUs, and financiers (banks, NBFC-Factors and other financial institutions, as permitted) are direct participants in the TReDS
- Currently, there are **three RBI-approved platforms**: Receivables Exchange of India Ltd (RXIL), A Treds Ltd (Invoicemart), and Mynd Solutions Pvt Ltd (M1xchange). To encourage innovation and competition through increased participation, '**on-tap**' **authorisation** was introduced in October 2019.
- As per the latest RBI data, the three platforms together processed ₹43,580 crore worth of transactions between April and August of the current fiscal as against ₹25,653 crore in the same period of the previous fiscal, recording a growth of 70 per cent. The number of transactions also jumped to 219,758 (141,654) during this period.

### **How does it work?**

- Under the TReDS platform, an MSME seller uploads the invoice for the goods/ services provided to the buyer.
- Once the buyer accepts the invoice, multiple financial institutions bid to finance the invoice. A **Factoring Unit (FU)** is a standard nomenclature used in TReDS for invoice(s) or bill(s) of exchange. Each FU represents a confirmed obligation of the corporates or other buyers, including Government Departments and PSUs.

- In TReDS, FU can be created either by the MSME seller or the buyer. If an MSME seller creates it, the process is called factoring; if the same is created by corporates or other buyers, it is called as reverse factoring.
- The seller then accepts the favourable bid and gets the finance within 24 hours of acceptance. The buyer then pays the financial institution on the due date.
- Factoring is a financial transaction and a type of debtor finance in which a business sells its accounts receivable to a third party at a discount. A business will sometimes factor its receivable assets to meet its present and immediate cash needs.

## **Topic 54. UNEMPLOYMENT**

### *Important for the subject: Economy*

The Bihar government has released some details about the **state's caste survey** that was conducted this year. **Labour Force Participation Rate (LFPR)**: Simply put, it gives a sense of how many Indians are **“demanding” a job**. The **“Labour Force”** consists of persons who are of 15 years of age or more and are either of the following two categories: **are employed, are unemployed and are willing to work and are actively looking for a job**. The LFPR is expressed as a **percentage of the working-age population**.

### **Unemployment Rate (UER):**

- It is nothing but the number of people in the labour force who are looking for a job but as yet unemployed. The UER is expressed as a percentage of the labour force.
- In India the UER often **underestimates the joblessness because the LFPR itself keeps falling**. Simply put, it has been found that if they do not get a job over time, a lot of unemployed people get discouraged and leave the labour force (that is, stop actively looking for a job). With unemployed people leaving the labour force, the ratio of unemployed to total labour force falls.
- As such, often in India, the UER falls not because more people have got jobs but because the LFPR itself falls (that is, when more people — who failed to get a job — stop looking for a job altogether).
- As such, the best metric to look at is **Employment Rate (ER)**. The ER dispenses with the labour force calculation and simply looks at the total number of people employed as a percentage of the working-age population. By not basing itself on LFPR, the ER avoids the problem of a falling LFPR artificially dragging the unemployment rate.

### **Caste-wise Employment rate**

- The ER has fallen for each and every caste group. In other words, the proportion of people belonging to a particular caste in the working-age population who are employed has been coming down for every caste. Again, while the upper castes have the lowest employment rate, the biggest drop in ER has been witnessed among OBCs and SCs.

### **Religion-wise Employment rate**

- Reportedly, the Bihar caste survey looked at caste across religious identities as well. In other words, it categorised non-Hindus (such as Muslims) into different castes. As such, it might be relevant here to look at the religion-wise employment rates as well.

## Topic 55. SEBI EXTENDS TIMELINE FOR VERIFICATION OF MARKET RUMORS BY LISTED ENTITIES

*Important for the subject: Economy*

**Securities and Exchange Board of India (SEBI)** has extended the timeline for verification of market rumors by listed companies. The new dates are February 1, 2024 for the top 100 listed entities by market capitalization, and August 1, 2024, for the top 250 listed entities by market capitalization.

- The earlier dates were October 1, 2023, and April 1, 2024, respectively. SEBI introduced these changes earlier this year in order to avoid the establishment of false market sentiment or impact on the securities of the entity.
- The new rules require listed companies to verify and confirm, deny, or clarify any market rumour concerning them **within two business days** of becoming aware of it.
- A positive step by SEBI to protect investors and ensure the integrity of the stock market. Market rumors can often be inaccurate and misleading, and they can lead to volatility and uncertainty in the market.
- By requiring listed companies to verify and clarify market rumors, SEBI is helping to reduce the risk of market manipulation and protect investors from making uninformed investment decisions.
- “The amendments to Regulation 30(11) of SEBI (LODR) Regulations, 2015 are in line with global regulations. The introduction of the requirement for top-listed companies is only a precursor to widening its applicability in the course of time,” states the note, indicating that SEBI’s decision aligns with global practices.
- It’s worth noting that this principle can be traced back several decades to a 1981 edition of the New York Stock Exchange (NYSE) Manual, which has consistently demanded a “**frank and explicit**” response from listed companies. These regulations have remained fundamental to both the NYSE and NASDAQ rulebooks throughout the years.
- In summary, SEBI’s decision to extend the timeline for verifying market rumors marks a significant juncture in India’s financial regulatory landscape, ushering in an era characterized by increased transparency and accountability among listed companies. With parallels in global regulations and a potential expansion of its scope down the road, India’s securities market is poised for a new chapter.

**Background:**

- The Securities and Exchange Board of India (SEBI) introduced the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, commonly known as LODR Regulations, **with the aim of enhancing transparency, corporate governance, and investor protection in the Indian securities market**
- In summary, the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, play a pivotal role in **regulating the behaviour of listed companies in India, promoting transparency, and safeguarding the interests of investors in the country's stock markets.**
- **Companies that are listed on Indian stock exchanges must adhere to these regulations to maintain their listing status.**

**Topic 56. INDIA AND THE WTO**

*Important for the subject: Economy*

**Why in news?**

**India** wanted public stockholding to be moved to the '**green box**' (**subsidies that are permissible**). At the outset, there was a compromise that there would be a peace clause. India and others who avail of public stockholding will not be dragged to dispute settlement until a permanent solution is found. As of now, US opposed this and EU is ready for negotiations.

**Why EU and US are against it and developing countries favours it?**

- The issue of finding a permanent solution to the public stockholding programmes for food security purposes is important for developing countries like India as **it provides support measures and procures rice from farmers at MSP (minimum support price) and sells at cheaper rates to poor populations for food security.**
- Developed countries term **these support measures as trade distorting subsidies** and they are against these programmes of public stockholding of food.

**About World Trade Organization (WTO)**

- The WTO is an intergovernmental organization that is concerned with the regulation of international trade between nations.
- The WTO officially commenced on 1 January 1995 under the Marrakesh Agreement, signed by 123 nations on 15 April 1994.
- It replaced the General Agreement on Tariffs and Trade (GATT), which commenced in 1948. It is the largest international economic organization in the world



## Functions of WTO

- The WTO deals with the regulation of trade in goods, services and intellectual property between participating countries.
- It provides a framework for negotiating trade agreements and a dispute resolution process aimed at enforcing participants' adherence to WTO agreements, which are signed by representatives of member governments and ratified by their parliaments.

## Working Principles of the WTO

- The WTO establishes a framework for trade policies; it does not define or specify outcomes. That is, it is concerned with setting the rules of "trade policy." **Five principles** are of particular importance in understanding both the pre-1994 GATT and the WTO:
- **Non-discrimination** :It has two major components: the **most favored nation (MFN) rule and the national treatment policy**. The MFN rule requires that a WTO member must apply the same conditions on all trade with other WTO members. National treatment means that imported goods should be treated no less favorably than domestically produced goods.
- **Reciprocity**: It reflects both a desire to limit the scope of free-riding that may arise because of the MFN rule and a desire to obtain better access to foreign markets.
- **Binding and enforceable commitments**: The tariff commitments made by WTO members in multilateral trade negotiation and on accession are enumerated in a schedule (list) of concessions. These schedules establish "ceiling bindings": a country can change its bindings, but only after negotiating with its trading partners.
- **Transparency**: The WTO members are required to publish their trade regulations, to maintain institutions allowing for the review of administrative decisions affecting trade, to respond to requests for information by other members, and to notify changes in trade policies to the WTO.
- **Safety values**: In specific circumstances, governments are able to restrict trade. The WTO's agreements permit members to take measures to protect not only the environment but also public health, animal health and plant health.
- **The Agreement on Agriculture (AoA)** came into effect with the establishment of the WTO at the beginning of 1995. The AoA has three central concepts, or "pillars": **domestic support, market access and export subsidies**
- **Domestic Support** – It refers to subsidies such guaranteed Minimum Price or Input subsidies which are direct and product specific. Under this, Subsidies are categorized into 3 boxes
- **Green Box**– Subsidies which are no or least market distorting includes measures decoupled from output such as income-support payments (decoupled income support), safety – net programs, payments under environmental programs, and agricultural research and-development subsidies
- **Blue Box**– Only 'Production limiting Subsidies' under this are allowed. They cover payments based on acreage, yield, or number of livestock in a base year
- **Amber Box**– These include subsidies which are trade distorting and need to be curbed.

## **Topic 57. RBI SETS WORKING GROUP ON ECL PROVISIONING**

*Important for the subject : Economy*

**In News:** RBI has constituted an external working group on **expected credit loss (ECL)** based framework for provisioning by banks. RBI released a discussion paper in January this year on shifting from the incurred-loss approach to the ECL model, a transition aimed at making the banking system more resilient.

- working group chaired by R. Narayanaswamy, former professor of IIM Bangalore, will have domain experts from academia and industry as also representatives from select banks

**What is the ECL model?**

- ECL model proposed by the regulator, where banks have to recognize stress much earlier, is in contrast to the existing regime where banks make provisions after incurring losses.

The group's **Working group's focus:**

- Terms of reference will include laying down the principles for banks while designing the **credit risk models** to be used for assessing and measuring expected credit losses.
- It will also recommend factors that banks should consider for determination of credit risk based on the guidance provided in **IFRS 9** and principles laid out by **BCBS**.

**What will be the impact of ECL framework implementation on banking sector?**

- Analysts' estimates peg the impact of ECL on the core capital of banks at 200 basis points (bps). The current core capital —common equity tier 1 capital —of 46 banks stood at 13.7% on 31 March

---

## **Topic 58. BIS DESIGNS BITCOIN MONITOR**

*Important for the subject : Economy*

BIS has come up with a Bitcoin monitoring system aimed at giving authorities a clearer picture on how, when and where the cryptocurrency is used. Bank for International Settlements (BIS) project, codenamed **Atlas**, began at the Dutch central bank more than five years ago.

- Atlas created a **“proof of concept” platform** that sucks data from both publicly available “on-chain” crypto ledger as well as harder to source “off-chain” data reported by onlysome exchanges and users.
- That information then provides a rough picture of cryp-tocurrency activity, although as crypto wallets can be set up anonymously and without the owner specifying location, it is not necessarily precise.
- An initial analysis of data collected by the platform indi-cates that cross-border flows are substantial in economic terms and unevenly distributed across geographical Regions

- BIS' 'innovation hub prototype produces "dash-boards" that show information such as how many bitcoin are being converted into US dollars at certain times in certain parts of the world.
- They can also provide an insight into the adoption and relative importance of crypto markets as they rise or fall in popularity.
- Cross-border crypto flows are particularly relevant for central banks in the context of cross-border payments, economic analysis and balance of payments statistics, the BIS said.
- They may represent a significant part of cross-border transfers for some countries that is hard to quantify because of the current gaps in data. Central banks need to gain first-hand knowledge of crypto and DeFi and the risks and opportunities they present to the financial system.

### Bank for International Settlements

- The Bank for International Settlements is an international financial institution which is owned by member central banks. Its primary goal is to foster international monetary and financial cooperation while serving as a bank for central banks.
- As the bankers' bank, the BIS serves the financial needs of member central banks. It provides gold and foreign exchange transactions for them and holds central bank reserves.
- The BIS is also a banker and fund manager for other international financial institutions.

### Topic 59. MOD RELEASES 5TH POSITIVE INDIGENISATION LIST TO GIVE MORE EXPOSURE TO DOMESTIC INDUSTRY

#### *Important for the subject : Economy*

**In News:** Ministry of Defence (MoD) on releases the fifth **Positive Indigenisation list** of 98 items at plenary session of 'Swavlamban 2.0'.

Ministry of Defence (MoD) releases the fifth **Positive Indigenisation list** of 98 items, such as certain categories of combat vehicles and drones, sensors, weapons and ammunitions, to give more exposure to domestic industry and reduce dependence on imports of the military hardware.

- Highly complex systems, sensors, weapons and ammunition have been included in the list. All these items **will be procured from indigenous sources** as per provisions given in **Defence Acquisition Procedure (DAP) 2020** in staggered timeline.
- Announcement was made at the plenary session of 'Swavlamban 2.0', the two-day seminar of **Naval Innovation and Indigenisation Organisation (NIO)**
- The list has been prepared by the **Department of Military Affairs**, lays special focus on import substitution of components of major systems which are being developed and is likely to translate into firm orders in the next five to ten years.

#### **Other announcements:**

- Defence Minister also launched 76 challenges for the industry under 10th **Defence India Start-up Challenges (DISC 10)** and **DISC 10 PRIME**
- Under the **Innovations for Defence Excellence (iDEX)** five problem statements were announced.

- In addition, two **INDUS X challenges** under ‘**INDUS-X Mutual Promotion of Advanced Collaborative Technologies**’ (IMPACT) challenges **jointly finalised by iDEX and United States Department of Defense (US DoD)** were also launched by Rajnath Singh. He also released the Indian Navy’s updated Indigenisation Roadmap ‘Swavlamban 2.0’.
- Defence Minister also launched **SBI NAVECash Card** – a one-of-its-kind dual-chip debit card developed by the State Bank of India (SBI) and the Indian Navy. The card can be used in online mode (as a regular debit card) as well as in **offline mode while at sea with no direct connectivity** with the bank India-United States Defence Acceleration Ecosystem (INDUS X)
- The U.S. Department of Defense (DoD) and the Indian Ministry of Defense (MoD) launched the India-U.S. Defense Acceleration Ecosystem (INDUS-X) to expand the strategic technology partnership and defense industrial cooperation between our governments, businesses, and academic institutions.
- This initiative builds on a commitment by the U.S. and Indian National Security Advisors in January 2023 to launch an “Innovation Bridge” to connect U.S. and Indian defense start-ups as part of the U.S.-India initiative on Critical and Emerging Technology (iCET).
- India’s Innovations for Defense Excellence (iDEX) and the Office of the Secretary of Defense (OSD) are leading INDUS-X activities for MoD and DoD, respectively
- Innovations For Defence Excellence (iDEX)
- The iDEX initiative was launched by the Hon’ble PM in April 2018. iDEX aims to achieve self – reliance and foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes and academia.
- iDEX has partnered with leading incubators in the country to provide handholding, technical support and guidance to the winners of iDEX challenges.

### **SPRINT Challenge**

- It was launched during the Naval Innovation and Indigenization Organization (NIIO) seminar “Swavlamban” in New Delhi. This challenge aims to boost indigenous technology usage in Indian Navy.

## **Topic 60. RBI FLAGS INFLATION RISK TO STABILITY**

### ***Important for the subject :Economy***

MPC leaves benchmark interest rates unchanged for a fourth straight meeting, reiterates its real GDP growth and retail inflation projections for the fiscal year at 6.5% and 5.4%, respectively.

### **What is Monetary policy?**

- Monetary policy refers to the policy of the central bank with regard to the use of monetary instruments under its control to achieve the goals specified in the Act.
- The primary objective of the RBI’s monetary policy is to maintain price stability while keeping in mind the objective of growth.

- The amended RBI Act, 1934 also provides for the inflation target (4%  $\pm$ 2%) to be set by the Government of India, in consultation with the Reserve Bank, once in every five years.

### **What is the Monetary Policy Committee?**

- It is a statutory and institutionalized framework under the Reserve Bank of India Act, 1934, for maintaining price stability, while keeping in mind the objective of growth.
- The Governor of RBI is ex-officio Chairman of the committee. The MPC determines the policy interest rate (repo rate) required to achieve the inflation target.

### **What is the repo rate?**

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

### **Types of Monetary Policy**

#### **Expansionary Monetary Policy**

- This is a monetary policy that aims to increase the money supply in the economy by decreasing interest rates, purchasing government securities by central banks, and lowering the reserve requirements for banks.
- An expansionary policy lowers unemployment and stimulates business activities and consumer spending.
- The overall goal of the expansionary monetary policy is to fuel economic growth. However, it can also possibly lead to higher inflation.

#### **Contractionary Monetary Policy**

- The goal of a contractionary monetary policy is to decrease the money supply in the economy.
- It can be achieved by raising interest rates, selling government bonds, and increasing the reserve requirements for banks.
- The contractionary policy is utilized when the government wants to control inflation levels.

#### **Monetary Policy Tools**

- To control inflation, the Reserve Bank of India needs to decrease the supply of money or increase cost of fund in order to keep the demand of goods and services in control.
- RBI Monetary Policy instruments are divided into two category qualitative instruments and quantitative instruments.

#### **Quantitative Tools**

- The tools applied by the policy that impact money supply in the entire economy, including sectors such as manufacturing, agriculture, automobile, housing, etc.



### Reserve Ratio:

- Banks are required to keep aside a set percentage of cash reserves or RBI approved assets. Reserve ratio is of two types:
- **Cash Reserve Ratio (CRR)** – Banks are required to set aside this portion in cash with the RBI. The bank can neither lend it to anyone nor can it earn any interest rate or profit on CRR.
- **Statutory Liquidity Ratio (SLR)** – Banks are required to set aside this portion in liquid assets such as gold or RBI approved securities such as government securities. Banks are allowed to earn interest on these securities, however it is very low.

### Open Market Operations (OMO):

- In order to control money supply, the RBI buys and sells government securities in the open market. These operations conducted by the Central Bank in the open market are referred to as Open Market Operations.
- When the RBI sells government securities, the liquidity is sucked from the market, and the exact opposite happens when RBI buys securities. The latter is done to control inflation. The objective of OMOs is to keep a check on temporary liquidity mismatches in the market, owing to foreign capital flow.

### Market Stabilization Scheme (MSS)

### Qualitative Tools

- Unlike quantitative tools which have a direct effect on the entire economy's money supply, qualitative tools are selective tools that have an effect in the money supply of a specific sector of the economy.
- **Margin requirements** – The RBI prescribes a certain margin against collateral, which in turn impacts the borrowing habit of customers. When the margin requirements are raised by the RBI, customers will be able to borrow less.
- **Moral suasion** – By way of persuasion, the RBI convinces banks to keep money in government securities, rather than certain sectors. **Selective credit control** – Controlling credit by not lending to selective industries or speculative businesses.

## **Topic 61. RBI PROPOSES ANONYMISING CARD DETAILS AT THE BANK LEVEL**

*Important for the subject :Economy*

To further secure online transactions, the Reserve Bank of India (RBI) proposed to allow banks to “tokenise” debit or credit cards. Observing that Card on File Tokenisation (CoFT), which anonymises card details, had so far been offered at merchant sites, RBI proposed bank level tokenisation would enable cardholders to get tokens created and linked to their existing accounts with various e-commerce applications.

### **What is Tokenization?**

- Tokenisation refers to the replacement of actual card details with a unique alternate code called the ‘token’. This token shall be unique for a combination of card, token requester and the device.
- Benefits – A tokenised card transaction is considered safer as actual card details such as three-digit CVV and expiry date are not shared with the merchant during transaction processing.
- Actual card data, token and other relevant details are stored in a secure mode by the authorised card networks.
- Now, for any purchases done online or through mobile apps, merchants, payment aggregators and payment gateways will not be able to save crucial customer credit and debit card details.

### **How is tokenisation be carried out?**

- A Debit or Credit card holder can get the card tokenised by initiating a request on the app provided by the token requestor.
- The token requestor will forward the request to the card network. The card network, with the consent of the card issuer, will issue a token corresponding to the combination of the card, the token requestor, and the device.

### **How safe is tokenisation?**

- The token requestor cannot store Primary Account Number (PAN), or any other card details.
- Card networks are also mandated to get the token requester certified for safety and security that conform to international best practices/globally accepted standards.
- With tokenisation, a card and merchant specific token is generated, which can be used for all online transactions with that merchant.
- In case of any data breach or hacking attempt at the merchant’s end, the customer’s card details will be protected.
- Further, RBI has emphasised that the integrity of the token generation process has to be ensured at all times.

### **How did India decide to carry out tokenisation?**

- The RBI prohibited merchants from storing customer card details on their servers and mandated the adoption of card-on-file (CoF) tokenisation as an alternative.
- After multiple extensions, given to the system for a comfortable switchover, the RBI

finally implemented these norms.

- The central bank was constantly talking to all stakeholders to ensure that the transition to the tokenisation framework was smooth.

**Benefits of tokenization in a nutshell:**

- Largely designed to counter online frauds and curb digital payment breaches, tokenization comes with a slew of benefits. Some of them are:
- **Enhanced safety and security:** Tokens generated will be unique to a single card at a specific merchant and this will take up the overall security of making card-based transactions. It eliminates the risk of storing card details online and ensures the uncompromised convenience of storing customer’s token details on the merchant site.
- **Quicker checkouts:** Tokenized Mastercard will allow the convenience of quick checkouts as one doesn’t need to punch in the card number for each purchase.
- **No more ‘False Declines’:** Many times, legitimate online payments using valid cards are declined on the grounds of the transaction looking like a fraud. With tokenization, this becomes a thing of the past as the usage of tokens for payments confirms security of the highest order.
- **Easy card management:** With tokenization, one can also keep track of all your cards and the merchants they have been tokenized with.
- **No need for a physical card:** With tokenization, one can store a virtual version of one’s card on a smartphone for the days one forgets to carry your wallet.
- **Added benefits:** Tokenization also comes with cashback benefits when secured with platforms like Amazon, Paytm, Swiggy, Flipkart and Phonepay among others.

**Topic 62. CCI OPTS OUT AS COMPETITION AGENCIES GET RANKED GLOBALLY**

*Important for the subject : Economy*

CCI opts out of Rating Enforcement Survey; Remained “unranked” along with Competition Agencies of Canada, China, US DoJ& FTC

**Competition Commission of India (CCI)**, has been **ranked 2.8 (out of 5)** on Market Perception Rating in the results of 23rd edition of **Rating Enforcement of Global Competition Review (GCR)** GCR is a global publisher of news, analysis, and events related to the competition law and policy industry.

**Rankings:**

- European Union’s Directorate-General for Competition and Germany’s Federal Cartel Office were top ranked as “elite” with 5 star ratings.
- Australia’s Competition & Consumer Commission, France’s Competition Authority, South Korea’s Fair Trade Commission, and United Kingdom’s Competition and Markets Authority were ranked as “very good” with 4.5-star ratings.

**Other unranked countries:**

- The other jurisdictions and Agencies which remained “Unranked” are: **Canada’s**

Competition Bureau, China's State Administration for Market Regulation, US Department of Justice and US Federal Trade Commission.

- CCI was lauded for its action in 2022, when it took three of its **biggest enforcement decisions** ever in the span of one week in October 2022:
- The watchdog ordered Google to pay a combined 22.8 billion Indian rupees (€247.million) in fines for abusing its dominance over the Android operating system and its payment processing services.
- It also sanctioned Make My Trip and hotel company Oravel Stays in one of its first orders targeting multi-sided platforms.
- The authority also advanced other behavioural probes into Apple and Google's news publishing", added a release issued by GCR.

### Challenges for CCI:

- After the last chairperson of CCI stepped down after four years as chair, the agency was left without the required number of commissioners to issue decisions.
- In the absence of a quorum CCI could not clear M&A cases. Later it had to invoke the '**doctrine of necessity**' to continue examining and clearing combination (M&A) cases, despite a lack of quorum.
- It was only in 2023 that the government appointed **Ravneet Kaur** as CCI chairperson, choking the CCI's conduct work in the meantime.

### Recent initiatives:

- Government approved sweeping amendments to the country's competition law, which **will allow the CCI to impose fines based on global turnover**. To complement the CCI's enforcement efforts, the government has also set up a **stand-alone expert committee** to draft a **Digital Competition Act**.

## Topic 63. RESERVE BANK ONBOARDS 30 MORE BANKS ON UDGAM PORTAL

### *Important for the subject : Economy*

RBI onboards more banks to UDGAM to help people to search and claim their unclaimed deposits across multiple banks in one place. RBI had in August 2023 launched a centralised web portal UDGAM to help people to search and claim their unclaimed deposits across multiple banks in one place.

- **Reserve Bank Information Technology Pvt Ltd (ReBIT), Indian Financial Technology & Allied Services (IFTAS)** and participating banks have collaborated on developing the portal.
- Portal has been developed for use by the public to make it easier to search for unclaimed

deposits. Reserve Bank of India has by far on boarded 30 banks on its UDGAM platform, a portal that enables the public to search for unclaimed deposits.

- With this banks have been onboarded for around 90 per cent of such unclaimed deposits (in value terms) in **Depositor Education and Awareness (DEA) Fund**.
- About ₹35,000 crore unclaimed deposits as of February 2023 were transferred to the RBI by public sector banks (PSBs) in respect of deposits, which were not operated for 10 years or more.
- The deposits remaining unclaimed for 10 years in a bank are transferred to the ‘Depositor Education and Awareness’ (DEA) Fund maintained by the Reserve Bank of India (RBI).

### Indian Financial Technology & Allied Services (IFTAS)

- Indian Financial Technology & Allied Services (IFTAS) is a wholly-owned subsidiary of the Reserve Bank of India, that designs, deploys & provides the essential IT-related services, required by the Reserve Bank of India, banks, and financial institutions.
- IFTAS has taken over the Indian Financial Network (INFINITE), Structured Financial Messaging System (SFMS) and the Indian Banking Community Cloud (IBCC) from the IDRBT (from April 01, 2016).

### Reserve Bank Information Technology Pvt Ltd (ReBIT)

- ReBIT has been set up as a wholly owned subsidiary by the Reserve Bank of India (RBI), to take care of the IT requirements, including the cyber security needs of the Reserve Bank and its regulated entities.

### The 4 fully Owned subsidiaries of RBI:

- Deposit Insurance and Credit Guarantee Corporation of India (DICGC)
- Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL)
- Reserve Bank Information Technology Private Limited (ReBIT)
- Indian Financial Technology and Allied Services (IFTAS)

## Topic 64. HC RULES AGAINST QUOTA IN MINORITY INSTITUTIONS

### *Important for the subject :Polity*

Madras High Court Rules SC/ST/OBC Reservation Doesn't Apply To Religious, Linguistic Minority Educational Institutes. The **Madras High Court** while hearing a case **filed by Justice Basheer Ahmed Sayeed College for Women in Chennai** has ruled that **educational institutions run by religious and linguistic minorities** are not obligated to follow reservation rules for Scheduled Castes, Scheduled Tribes, and Other Backward Class students.

- It emphasized that the **government cannot compel these institutions to provide reservations**. While upholding the right of the state government to limit admission of minority students to 50% of the sanctioned intake, **the court clarified that those admitted on merit should not be considered part of the 50% quota**.
- The court also stated that **minority status should continue until cancelled by the National Commission for Minority Educational Institutions**.



### What is National Commission for Minority Educational Institutions (NCMEI):

- National Commission for Minority Educational Institutions (NCMEI) was established to protect and safeguard the educational institutions which are established by the religious minorities in India.
- It is a **statutory body** established by **National Commission for Minority Educational Institutions Act (NCMEI Act), 2004**.
- The Commission is a **quasi judicial body** and has been endowed with the powers of a **Civil Court** for the purpose of discharging its functions under the Act.
- This also ensure **rights of religious minorities to establish and administer educational institutions** of their choice as provided in the Article 30 of the Constitution of India. **Linguistic Minorities do not come under the ambit of the NCMEI Act, 2004**
- The **commission is headed by a chairman** who belongs to a religious minority community and has been a **Judge of a High Court. Three members are nominated by the Central Government.**
- The commission has **three main roles namely adjudicatory, advisory and recommendatory.**

### What is the National Commission for Minorities:

- The **National Commission for Minorities (NCM)** is an **autonomous body established by the Indian government in 1992** under the National Commission for Minorities Act, 1992.
- The setting up of the Commission was envisaged in the **Ministry of Home Affairs Resolution of 1978** for the enforcement and implementation of all the safeguards provided for the Minorities in the Constitution.
- It is **responsible for advising the central and state governments** on matters related to the welfare and development of minority communities in India.

### What is the Composition of National Commission for Minorities

- NCM consists of a **Chairperson, a Vice-Chairperson and five members** and all of them shall be from amongst the minority communities.
- Total of **7 persons to be nominated by the Central Government** should be from amongst persons of eminence, ability and integrity.
- Each Member **holds office for a period of three years** from the date of assumption of office.

### How is a community notified as a minority:

- Under **Section 2(c) of the National Commission for Minorities Act of 1992** the central government has the power to notify a community as a minority.
- In **1993, the first Statutory National Commission** was set up and **five religious communities viz. The Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis)** were notified as minority communities.
- In **2014, Jains** were also notified as a minority community

### Constitutional provisions related to minorities:

#### Article 29

- It provides that **any section of the citizens residing in any part of India** having a

distinct language, script or culture of its own, shall have the right to conserve the same. It grants protection to both religious minorities as well as linguistic minorities

**Article 30:**

- **All minorities** shall have the right to establish and administer educational institutions of their choice.
- The protection under Article 30 is **confined only to minorities** (religious or linguistic) and does not extend to any section of citizens (as under Article 29).

**Article 350-B:**

- The **7th Constitutional (Amendment) Act 1956** inserted this article which provides for a **Special Officer for Linguistic Minorities** appointed by the President of India.
- It would be the **duty of the Special Officer to investigate** all matters relating to the safeguards provided for linguistic minorities under the Constitution.

**Judgements related to determination on minority status:**

**TMA Pai Case:**

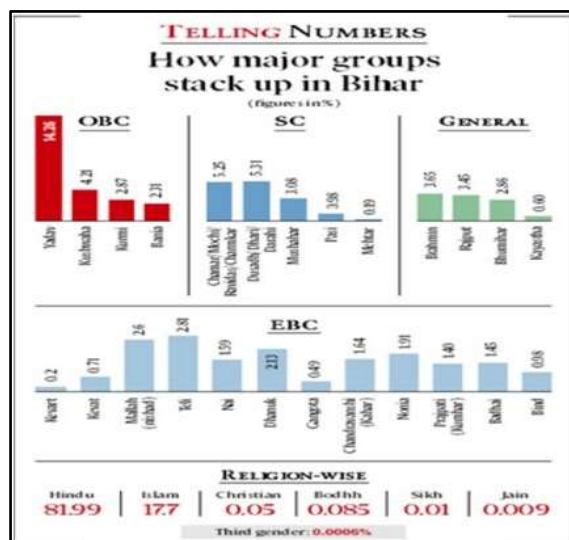
- The SC had said that for the **purposes of Article 30 that deals with the rights of minorities to establish and administer educational institutions, religious and linguistic minorities have to be considered state-wise.**

**Bal Patil Case:**

- In 2005, the SC in its judgment in ‘Bal Patil’ referred to the TMA Pai ruling.
- The legal position clarifies that henceforth the **unit for determining status of both linguistic and religious minorities would be ‘state’.**

**Topic 65. BIHAR CASTE SURVEY: HC RULES AGAINST QUOTA IN MINORITY INSTITUTIONS**

*Important for the subject : Polity*



Bihar government revealed the results of its caste survey on Gandhi Jayanti

### How the survey was carried:

- The Bihar government compiled data on **each family digitally through a mobile application** as part of the **eight-level survey** from the **panchayat to the district level**.
- The mobile app had a set of questions in a format, **mentioning place, caste, the number of people in a family, their profession, and annual income**, among others.
- During the **first phase of the caste survey, the houses were numbered**, and caste details were sought.
- The second phase of the exercise involved **compiling the economic status of the people**. All composite information was compiled in the app after scrutiny by senior officers.
- The **process of caste survey monitoring** involved the **additional district magistrate (DM)/district welfare officer/district statistics officer at the top**, with the DM concerned being the final monitoring authority.
- The next level comprised the **sub-divisional officer followed by the circle officer, block development officer, municipal commissioner/chief executive officer**.
- The Panchayati Raj Institutions were kept completely out of the process.

### Key Findings of the survey:

- The survey puts the share of **Extremely Backward Classes (EBCs) and Other Backward Classes (OBCs) cumulatively at more than 63%**.

### Category-wise classification:

- The “unreserved” category i.e. the “forward” castes is **about 15.5%**. The **Extremely Backward Classes (EBCs) are the biggest social group comprising 36.01%** of the State’s population.
- The **OBCs accounts to 27.12%**, and the **Scheduled Castes (SCs) to 19.65%**.

**Scheduled Tribes (STs) are only 1.68%.**

- **Total Population of Bihar**, according to the survey, is **13, 07, 25,310**, compared to the 10.41 crore recorded in the 2011 census.

### Religion-based data:

- **Hindus** comprise 81.99% of the population, and **Muslims 17.7%**.

The populations of Buddhists, Christians, Sikhs, Jains, and other religious denominations are minuscule.

### What are the legal angles involved:

- The **population census** is a **Union Important for the subject** under **Article 246** of India Constitution.
- It is listed at **serial number 69** of the **seventh schedule** of the constitution. Census is conducted **under the provisions of the Census Act, 1948**.
- The bill for this Act was **piloted by Sardar Vallabhbhai Patel**, the then Home Minister of India.

- The **information collected** during the **population Census** is so confidential that it is **not even accessible to the courts of law**.
- The **confidentiality is guaranteed by the Census Act, 1948**. The law **specifies penalties for both public and census officials** for non-compliance or violation of any provision of the Act.
- The census recorded at the **beginning of every decade does not record any caste data** other than for those listed as schedule cast.

#### **Bihar caste survey throw challenges to 50% Quota:**

- Underlining the need to ensure “efficiency” in administration, **the SC in its 1992 decision in ‘Indra Sawhney vs Union of India’ had fixed the 50% ceiling** for reservation which can be breached only in “exceptional circumstances”.
- In **2021, a five judge Constitution bench of the SC unanimously struck down a Maharashtra law** which provides reservation to the **Maratha community** as unconstitutional, holding the total quota limit would exceed 50%.
- However, a **five-judge bench (in a 3:2 majority) of the SC upheld the 10% EWS quota**, which also breached the 50% ceiling. The court held that the **ceiling was for backward classes**.
- The survey’s findings are likely to intensify calls for increasing the OBC (Other Backward Classes) reservation in India beyond the current 27%.

#### **History of Caste Census:**

- A **population census was first carried out by the British colonial state in 1872**. The **65-page census enumerated** the populations of **various castes, including Brahmins, Kshatriyas and Rajputs** across several provinces.
- Caste populations were specifically counted based on their traditional occupations at the time. For instance, Hindus in the Madras province were counted in 17 sets, which included “priests, warriors, traders, agriculturists, shepherds and pastoral castes” among others.
- The **last time comprehensive data** on caste was collected was in the **1931 Census**.

#### **Why has it not been carried out since 1931:**

- The categories of ‘**Race, Caste or Tribe**’ were replaced by the ‘**Scheduled Tribe/Scheduled Caste**’.
- Subsequent reports and studies have attributed to the belief that “including caste data in census enumeration will perpetuate the caste system and deepen social divisions”.
- Recording of caste was **abandoned after Indian Independence in 1947**, to help smooth the growth of a secular state.

#### **More about Socio-economic caste census (SECC)**

- It is a study of the **socio-economic status of rural and urban households** and allows ranking of households based on predefined parameters.
- Census in **Rural Areas** has been conducted by the **Department of Rural Development**.
- Census in **Urban areas** is under the administrative jurisdiction of the **Ministry of Housing and Urban Poverty Alleviation**.
- It was also the **first paperless census** in India conducted on hand-held electronic devices by the government in 640 districts.

## Topic 66. CASTE CENSUS AND SURVEY

### *Important for the subject :Polity*

The Bihar government has released the results of its recently concluded survey of castes in the state, which reveals that Other Backward Classes (OBCs) and Extremely Backward Classes (EBCs) constitute more than 63% of the population of Bihar.

### **Census vs Survey**

- Census is the total process of collecting, compiling, analysing and disseminating demographic, economic and social data of all persons in a country at a specific period of time. Census in India is conducted at regular intervals of 10 years.
- Caste Survey- Since only the Union govt has the power to conduct census, several state governments like Bihar and Odisha have been conducting socio economic caste surveys to ascertain the social and economic status of different castes for better policy making.

### **History of Caste Census**

- Every Census in independent India from **1951 to 2011** has published data on Scheduled Castes and Scheduled Tribes, but not on other castes. Before that, every Census until **1931** had data on caste.
- Socio Economic caste census for OBCs was conducted for the first time in Independent India in 2011. However the findings were never made public. The last published data for all castes was done in the 1931 census.

### **Significance of Caste Census**

- A caste census, which will **generate exhaustive data** will allow policymakers to develop better policies, implementation strategies, and will also enable a more rational debate on sensitive issues.
- Unequal distribution of wealth, resources and education has meant an acute shortage of purchasing power among the majority of Indians. Hence, the caste census helps **to address these issues in a democratic, scientific and objective manner.**
- Our Constitution too favours conducting a caste census. **Article 340** mandates the appointment of a commission to investigate the conditions of socially and educationally backward classes.
- To **burst the myths** which actually deprive a large number of people, particularly on the margins. For instance, In Karnataka, there were claims that among the castes, the Lingayats are the most numerous.
- In **reducing inclusion and exclusion errors** with accurate data of castes, most backward castes can be identified.

### **Challenges with Caste Census**

- The data can be used by the political parties for their narrow political gains. This will encourage **caste based mobilisations** in the country.
- There have been concerns that counting caste may help **solidify or harden identities.**
- Due to these repercussions, nearly a decade after the SECC, a sizable amount of its data



remains unreleased or released only in parts.

- Caste census may **increase demand for larger or separate quotas**. For instance, Patels, Gujjars, Jats and other castes are demanding reservations. The caste census might induce more such demands in future.
- Enumerating the caste numbers in India is a **complex task as the same caste is spelt in different ways in different states**.
- Disclosure of caste identities could lead to individuals being **stigmatized or discriminated** against based on preconceived notions associated with certain castes.

### Way Forward

- **Need for sub categorisation of Backward classes**-This will provide the benefit to intended beneficiaries. Since the government has already appointed Justice G Rohini Panel on Sub-categorisation of OBCs. The Panel has to fast pace the sub-classification process.
- **Use technologies to assess the caste data on SECC**– The government can use technologies like Artificial Intelligence and machine learning to assess the SECC data and condense them into meaningful categories.
- Thus, a caste census may not sit well with the goal of a casteless society, but it may serve as a means of addressing inequities in society. However the census must aim at gradual elimination of castes by uplifting the socio-economically marginalised sections of the society.

### Topic 67. MEDIA BODIES SLAM NEWSCLICK SEARCH, CALL IT ATTEMPT TO 'MUZZLE' FREE MEDIA

#### *Important for the subject : Polity*

Delhi Police has arrested NewsClick founder and its editor-in-chief Prabir Purkayastha and Amit Chakravarty

Delhi Police's Special Cell **arrested Prabir Purkayastha, founder of news portal NewsClick, and Amit Chakravarty, the HR head**, following searches at over 50 locations linked to the portal.

- The arrest is based on an **FIR filed due to alleged illegal funding from China** via the United States.
- Numerous individuals associated with NewsClick were questioned and had digital devices seized.
- The case involves **several sections of the Unlawful Activities (Prevention) Act**, raising concerns about press freedom and freedom of expression.
- The police registered the case **under Sections 13, 16, 17, 18 and 22 of the UAPA**.
- **Section 13 – Punishment for unlawful activities**
- **Section 16 – Punishment for terrorist act**
- **Section 17 – Punishment for raising funds for terrorist act**
- **Section 18 – Punishment for organizing of terrorist camps**
- **Section 22 – Punishment for threatening witness**
- Cases were also registered under **Sections 153A and 120B of the Indian Penal Code (IPC)**.

- **Section 153A** – imposes **criminal liability upon those who spread enmity and disharmony** between different groups.
- **Section 120B** – being part of a **criminal conspiracy to commit a serious offense punishable**

**What is Unlawful Activities (Prevention) Act:**

- The **UAPA was enacted in 1967.**
- It lays down the **definitions and rules for designating** an organization as an “**unlawful association**” if it is engaged in certain types of activities.
- ‘**Unlawful activity**’ is **defined** as any action taken by an **individual or association through an act, words, spoken or written, or by signs or visible representation** which is intended to, or supports a claim to, bring about the cession of a part of the territory of India, or the secession of a part of the territory of India from the Union, or which incites any individual or group of individuals to bring about such cession or secession.
- It covers activities which **disclaim, question, disrupt or are intended to disrupt the sovereignty and territorial integrity of India**, and which cause or intend to cause disaffection against India.
- In **2004**, the **UAPA was amended**, and ‘**terrorist activities**’ were brought within its fold, Under the Act, the **central government may designate** an organization as a terrorist organization if it:

**Commits or participates in acts of terrorism;**

**Prepares for terrorism;**

**Promotes terrorism;**

**Is otherwise involved in terrorism;**

- The **2019 Amendment gave the Home Ministry** the power to **designate individuals as terrorists.**
- The Act **assigns absolute power** to the central government, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
- It has the **death penalty and life imprisonment** as the **highest punishments.** Under UAPA, **both Indian and foreign nationals can be charged.**
- It will be **applicable to the offenders** in the same manner, even if crime is committed on a foreign land, outside India.
- Under the UAPA, the **investigating agency can file a charge sheet in maximum 180 days** after the arrests and the duration can be extended further after intimating the court.
- The Act **empowers the Director General of National Investigation Agency (NIA)** to **grant approval of seizure or attachment of property** when the case is investigated by the said agency.
- The Act **empowers the officers of the NIA**, of the **rank of Inspector or above**, to **investigate cases of terrorism** in addition to those conducted by the DSP or ACP or above rank officer in the state.

## Topic 68. EWS RULING MAY HELP CASE FOR BREACHING 50% QUOTA CEILING

### *Important for the subject :Polity*

Arguments in EWS verdict may serve as a shot in the arm for seeking more quota post Bihar caste survey. The **Supreme Court's majority** decision to uphold the 10% economically weaker sections (EWS) quota for forward castes may encourage backward classes to seek reservation beyond the 50% limit.

- **The EWS ruling argued that the 50% cap wasn't rigid**, allowing flexibility based on special circumstances, and **reservations shouldn't be reduced to a mathematical formula.**
- The **Bihar caste-based survey** data revealed that the Other Backward Classes and Extremely Backward Classes make up 63% of the state's population.
- This could lead to **challenges against the 50% limit** in reservation cases, citing special circumstances and social diversity.

### **What is the issue all about:**

- The Bihar survey data could reignite the debate about the 50% cap on reservations set by the Supreme Court in 1992. This limit was imposed to maintain administrative efficiency.
- In **2021, a five judge Constitution bench of the SC unanimously struck down** a **Maharashtra law** which provides reservation to the **Maratha community** as unconstitutional, holding the total quota limit would exceed 50%.
- However, a **five-judge bench (in a 3:2 majority) of the SC upheld the 10% EWS quota**, which also breached the 50% ceiling. The court held that the **ceiling was for backward classes.**
- The survey's findings are likely to intensify calls for **increasing the OBC (Other Backward Classes) reservation in India beyond the current 27%**

### **What is Economically Weaker Section (EWS) Quota:**

- The 10% EWS quota was **introduced under the 103rd Constitution (Amendment) Act, 2019 by amending Articles 15 and 16.**
- It inserted **Article 15 (6) and Article 16 (6).** It is for economic reservation in jobs and admissions in educational institutes for Economically Weaker Sections (EWS).
- It was **enacted to promote the welfare** of the poor not covered by the 50% reservation policy for Scheduled Castes (SCs), Scheduled Tribes (STs) and Socially and Educationally Backward Classes (SEBC).
- It enables **both the Centre and the States to provide reservations to the EWS of society**

### **What are the Related provisions in the Constitution:**

- **Article 16(1) and 16(2)** assure citizens equality of opportunity in employment or appointment to any government office.
- **Articles 15(4) and 16(4)** state that the equality provisions do not prevent the government from making special provisions in matters of admission to educational institutions or jobs in favor of backward classes, particularly the Scheduled Castes (SCs) and the Scheduled

Tribes (STs).

- **Article 16(4A)** allows reservations to SCs and STs in promotions, as long as the government believes that they are not adequately represented in government services.
- **Article 15(6):** Up to 10% of seats may be reserved for EWS for admission in educational institutions. **Such reservations will not apply to minority educational institutions.**
- **Article 16(6):** It permits the government to reserve up to 10% of all government posts for the EWS

**Topic 69. ED CAN REDACT SENSITIVE PORTION FROM DOCUMENTS, RECORDING GROUND FOR ARREST'**

**Important for the subject: Polity**

SC has ruled that the agency must furnish the grounds of arrest in writing to the accused at the time of arrest.

- The Supreme Court, in a ruling on October 3, **directed the Enforcement Directorate (ED) to provide written grounds of arrest to accused individuals, allowing redaction of sensitive information to protect investigations.**
- It emphasized that the **ED should not label non-confessional** responses during interrogation as 'evasive.'
- **The decision aimed to ensure fairness, legal counsel access, and compliance with constitutional rights,** countering varying practices by ED officers across the country.
- **The judgment highlighted the importance** of written arrest grounds and cautioned against expecting confessions during custodial interrogations.

**Some facts Enforcement Directorate:**

- It is a **Multi-Disciplinary Organization** mandated with the task of enforcing the provisions of **two special fiscal laws – Foreign Exchange Management Act, 1999 (FEMA) and Prevention of Money Laundering Act, 2002 (PMLA).**
- The **origin of this Directorate** goes back to **1st May, 1956**, when an 'Enforcement Unit' was formed, in **Department of Economic Affairs**, for handling Exchange Control Laws violations under **Foreign Exchange Regulation Act, 1947** .
- In the year **1957**, this Unit was **renamed as 'Enforcement Directorate'**. The **administrative control of the Directorate** was transferred from **Department of Economic Affairs to Department of Revenue in 1960.**

**The Directorate enforces two laws;**

- **FEMA, a Civil Law** having quasi-judicial powers, for investigating suspected contraventions of the **Exchange Control Laws and Regulations** with the powers to impose penalties on those adjudged guilty.
- **PMLA, a Criminal Law**, whereby the Officers are empowered to conduct enquiries to locate, provisionally attach/confiscate assets derived from acts of Schedules Offenses besides arresting and prosecuting the Money Launderers.
- The ED has its **headquarters in New Delhi** and has many regional offices all over the country.
- **Composition**– Besides directly recruiting personnel, the **Directorate also draws officers**

from different Investigating Agencies, viz., Customs & Central Excise, Income Tax, Police, etc. on deputation. It is headed by the Director of Enforcement, who is an IRS officer Other functions:

#### What is ED's Jurisdiction:

- Both FEMA or PMLA apply to the whole of India. So, the ED can take action against any person on which this act applies.
- Cases under FEMA may lie in civil courts where PMLA cases will lie in criminal courts. The agency has jurisdiction over a person or any other legal entity who commits a crime.
- All the public servants come under the jurisdiction of the agency if they are involved in any offence related to money laundering.
- ED can not take an action suo motu. One has to complain to any other agency or Police first and then ED will investigate the matter and will identify the accused.
- The ED will investigate the matter and may attach the property of an accused person and also make an arrest and start proceeding with the violation of the provisions of FEMA and PMLA act.
- The matter will be resolved by way of adjudication by courts or PMLA courts.

#### Topic 70. US HOUSE SPEAKER OUSTED AFTER HISTORIC VOTE

##### *Important for the subject: Polity*

Kevin McCarthy becomes the first Speaker ever to be ousted from the Office. A faction of Republicans in the US House of Representatives removed Speaker Kevin McCarthy, marking the first-ever such removal in House history. The move follows McCarthy's reliance on Democratic votes to avoid a government shutdown.

- Matt Gaetz, a far-right Republican, led the rebellion against McCarthy. The House faces uncertainty as it seeks a new speaker, and legislative activity comes to a halt.
- Democrats declined to help McCarthy, and potential successors remain unclear, leaving Congress in uncharted waters for critical issues like government funding, Ukraine aid, and more.
- McCarthy's ouster could have implications for the future of Republican leadership.

#### What is a Speaker of the House in United States House of Representatives:

- The US Constitution created the position of Speaker of the House, responsible for presiding over the lower house of Congress.
- Traditionally, the Speaker is a current member of the majority party, although this is not mandated by the Constitution.
- As a result, they not only oversee the House of Representatives but also serve as the leader of the majority party within the chamber.

#### How is a Speaker chosen :

- The House of Representatives functions on a two-year cycle, known as a "session."
- The very first thing a new session of the House of Representatives must do is vote for a Speaker of the House. Without that person in place, the chamber cannot move on to



**any other function, including swearing-in members.**

- In the weeks after an election, the **Republican conference and the Democratic caucus hold an informal vote** among their members. This voting is done to decide who they want to **nominate to lead their party**. But members are **not obligated to vote** for the party's chosen candidate.
- While it has been the tradition for the speaker candidate to be a member of the House, it is not required. The **vote for Speaker requires** a candidate to receive the **support of a majority of the House i.e 218 votes out of the 435 members of the House**.
- The existing leader of the majority party is usually presumed to be the person to assume the speakership.

**How can the speaker of the House:**

- Under the newly adopted rule in January 2023, **any single member of the House could offer a privileged resolution** declaring the **Office of Speaker vacant**.
- **Procedural votes** could be **offered to slow down the motion**, but when it does come to the floor, it would need only a **simple majority** of the House or **218 members currently to pass**.

**Speaker of the Lok Sabha:**

- The Speaker of the Lok Sabha is elected from **among its members by a simple majority of members present and voting** in the House.
- The Speaker holds Office from the date of his/her election till immediately **before the first meeting of the next Lok Sabha**.

**Functions of Speaker**

- He/She is the **final interpreter of the provisions of the Constitution** of India, the Rules of Procedure and Conduct of Business of Lok Sabha and the parliamentary precedents, **within the House**.
- He/She **presides over a joint sitting** of the two **Houses of Parliament**. He/She can **adjourn the House or suspend** the meeting in **absence of a quorum**.
- He/She **decides whether a bill is a money bill or not** and his/her decision on this question is final.
- Committees like the **Business Advisory Committee, the General Purposes Committee and the Rules Committee work directly under her Chairmanship**.

**How can the Speaker of the Lok Sabha removed:**

- Under **Article 179** of the Constitution, a Speaker can be **removed by a resolution of the Assembly passed by a majority of "all the then members of the Assembly"**. The process begins with a **notice of at least 14 days**.
- This is to note that during resolution for removal of the Speaker, the **Speaker is not in position to cast his vote even if there is tie**.

**Topic 71. WHEN CAN A BILL BE DESIGNATED AS A 'MONEY BILL'**

*Important for the subject: Polity*

A seven-judge SC bench will hear a **challenge to the Centre's use of money bills for**

passing important laws.

**Chief Justice of India DY Chandrachud** announced the formation of a **seven-judge bench** to address legal challenges against the government's use of the money bill route to pass certain key legislations.

- The challenge includes amendments to the **Prevention of Money Laundering Act (PMLA) and Finance Acts** passed between **2015 and 2019**.
- Previously, the **Supreme Court upheld the Aadhaar Act** as a money bill in 2018, with **Justice Chandrachud** as the lone dissenter.
- The court also referred the money bill aspect of tribunal reform to a larger constitution bench in 2019.

**What is Money Bill:**

- **Article 110** defines a money Bill as one containing provisions dealing with taxes, regulation of the government's borrowing of money, and expenditure or receipt of money from the **Consolidated Fund of India**, among others.
- **Article 109** delineates the procedure for the passage of such a Bill and confers an overriding authority on the **Lok Sabha** in the passage of money Bills.
- **The Speaker certifies a Bill as a Money Bill**, and the **Speaker's decision is final**.

**What is Finance Bill:**

- In a general sense, any Bill that relates to revenue or expenditure is a financial Bill. A money Bill is also a specific type of financial Bill, that must deal only with matters specified in **Article 110 (1) (a) to (g)**.
- Financial bills are responsible for fiscal matters such as government spending or revenue. It specifies the amount of money to be spent by the government and the way it is to be spent.
- More specifically, **Article 117 of the Constitution** deals with the special provisions relating to financial Bills.
- Finance Bills are divided into three categories: the **Money Bill, Finance Bill Category I, and Finance Bill Category II**.

**What is the difference between money Bills and financial Bills:**

- **Classification Distinction:** Money Bills encompass tax-related provisions, while **Financial Bills** cover various Important for the subjects, including taxation and expenditure.
- The **Finance Bill**, solely dealing with tax proposals, qualifies as a **Money Bill**. For e.g. **The Compensatory Afforestation Fund Bill, 2015**, which establishes funds and covers other issues, was introduced as a **Financial Bill**.

**The procedure for the passage:**

- **Money Bill:** The **Rajya Sabha** cannot amend or reject **Money Bills**. It offers non-binding recommendations within **14 days**, but if the **Lok Sabha** declines them, the Bill passes as is.

**Financial Bill:** It must be approved by both houses.

**Origination and President's Recommendation:**

- **Money Bill:** Must be introduced only in the Lok Sabha, and only the Presidential recommendation
- **Financial Bill:** An ordinary bill can originate in either house, and the President's recommendation is not required for tax-related amendments.

**Topic 72. ANDHRA PRADESH SEEKS ₹7000 CRORE BORROWING FOR FY 2023-2024**

*Important for the subject: Polity*

Andhra Pradesh has requested permission to borrow ₹7,000 crore for the remaining duration of the fiscal year 2023-24. The state originally sought permission to borrow ₹11,000 crore for the same period, in accordance with the norms of **Andhra Pradesh's Fiscal Responsibility and Budget Management (FRBM) Act**. Currently, the Central government has already granted approval for borrowing ₹4,000 crore, leaving the state's request for the remaining amount. Under the amended Andhra Pradesh FRBM Act of 2005, the fiscal deficit is capped at 4 percent of the Gross State Domestic Product (GSDP).

**Constitutional dimension:**

- **Article 293(3) of the Constitution** – deals with the borrowing powers of states in India. It states that a state within the Indian Union cannot borrow money unless the President of India, on the recommendation of the Governor of that state, has given his consent to such borrowing.
- In simpler terms, this article requires the states to seek the President's approval, based on the Governor's recommendation, if they intend to borrow money. This provision is in place to ensure that **state borrowing from the entities is done with proper oversight and authorization**.

**Why do states need the Centre's permission for borrowing, and is it mandatory for all states?**

- States require the Centre's consent for borrowing as per **Article 293(3) of the Constitution** when they are indebted to the Centre due to previous loans. This requirement applies to all states in India because they are currently indebted to the Centre.

**Why are these restrictions necessary?**

- These restrictions serve the purpose of protecting the Centre's interests as a creditor and **ensuring macroeconomic stability**. State indebtedness can have a negative impact on the **overall fiscal health** of the nation, making it essential to **maintain fiscal discipline and stability**.

**What is the FRBM Act?**

- The Fiscal Responsibility and Budget Management Act (FRBM Act), 2003, establishes financial discipline to reduce fiscal deficit.

### What are the objectives of the FRBM Act?

- The FRBM Act aims to **introduce transparency in India's fiscal management systems**.
- The Act's long-term objective is for **India to achieve fiscal stability** and to give the Reserve Bank of India (RBI) flexibility to deal with inflation in India.

### Key features of the FRBM Act:

- The FRBM Act made it mandatory for the government to place the following along with the Union Budget documents in Parliament annually:
- **Medium Term Fiscal Policy Statement.**
- **Macroeconomic Framework Statement.**
- **Fiscal Policy Strategy Statement.**

### What is Fiscal Deficit?

- Fiscal deficit is the **difference between the government's total expenditure and its total revenue (excluding borrowings)**.
- It is an **indicator of the extent to which the government must borrow** in order to finance its operations and is expressed as a percentage of the country's GDP.

### Finance Commission: –

- The Finance Commission is a **constitutional body** in India that plays a crucial role in **fiscal federalism**. It is established under **Article 280** of the Indian Constitution, and its primary function is to recommend the **distribution of financial resources** between the central government and the state governments.
- Here's a brief overview of the Finance Commission's key functions and responsibilities:
- **Resource Distribution:** The primary task of the Finance Commission is to recommend the **division of tax revenues and other financial resources between the Union (central government) and the states**. This division ensures a fair and equitable distribution of funds to meet the needs of both the central and state governments.
- **Tax Devolution:** The Commission recommends the **share of central taxes to be allocated to the states**. This allocation is vital for states to finance their various development programs and functions.
- **Grants-in-Aid:** In addition to tax devolution, the Finance Commission also **suggests grants-in-aid to states that may have special financial needs or face fiscal challenges**. These grants aim to support states in fulfilling their obligations and responsibilities.
- **Fiscal Transfers:** The Commission examines the fiscal situation of both the Union and the states and recommends measures to **augment the revenue resources of the states**. It also assesses the need for and provides recommendations on revenue-sharing agreements between states.
- **Other Matters:** Apart from resource distribution, the Finance Commission may also be tasked with **examining any other financial or fiscal matters referred to it by the President of India**.
- **Five-Year Cycle:** The Finance Commission is typically **constituted every five years**. Each new Commission's recommendations are applicable for a specific five-year period, ensuring periodic reviews and adjustments in the fiscal relationship between the central and state governments.
- **Independence:** The Commission is expected to make recommendations independently, free from political interference. Its **members are typically experts in finance**,

**economics, and related fields.**

- **Parliament's Approval:** The Commission's recommendations are presented to the President, who, in turn, lays them before Parliament. **These recommendations need the approval of both houses of Parliament to become effective.**
- In summary, the Finance Commission is a crucial institution in India's fiscal federal structure, playing a vital role in ensuring the equitable distribution of financial resources between the central government and the states, as well as **addressing fiscal disparities and promoting cooperative federalism.**

### **Topic 73. RIGHTS OF PERSON UNDER ARREST**

*Important for the subject: Polity*

The Patiala House court allowed news portal NewsClick founder Prabir Purkayastha and human resource head Amit Chakraborty to get a copy of the first information report (FIR) in the Unlawful Activities (Prevention) Act(UAPA) case filed against them by the Delhi Police.

#### **Safeguards against Arbitrary Arrest and Detention**

- Clauses (1) and (2) of Article 22 guarantee four rights on a person who is arrested for any offence under an ordinary law-
- The right to be informed 'as soon as may be' of ground of arrest'.
- The right to consult and to be represented by a lawyer of his own choice.
- The right to be produced before a magistrate within 24 hours.
- The freedom from detention beyond the said period except by the order of the magistrate.
- The above fundamental rights guaranteed to arrested persons by clauses (1) and (2) of Article 22 are available to both citizens and non-citizens and not to persons arrested and detained under any law providing for preventive detention.

#### **Exceptions**

- Clause (3) of Article 22 provides two exceptions to the rule contained in clauses (1) and (2).  
It provides that the rights given to arrested person under clauses (1) and (2) are not available to following persons: An enemy alien
- A person arrested and detained under Preventive Detention law.



### Meaning of Preventive Detention

- It involves the detainment (containment) of a person in order to keep him/her from committing future crimes and/or from escaping future prosecution.
- Article 22 (3) (b) of the Constitution allows for preventive detention and restriction on personal liberty for reasons of state security and public order.

### Safeguards against arrest or detention made under a law providing for preventive detention

- Clauses (4) to (7) of Article 22 contain the procedural requirements which are to be complied with when a person is detained under a law providing for preventive detention. These are as follows-
- No detention beyond three months unless such detention is approved by the Advisory Board. The detaining authority must communicate, as soon as may be, to the detenu, the grounds for such detention.
- The detenu must be afforded the earliest opportunity of making a representation against the order of detention.
- No detention beyond the maximum period prescribed under a law made by Parliament under Clause 7(a).

### Purpose of the Preventive detention

- In the case of **Mariappan vs. The District Collector and Others**, the Court held that the aim of detention and its laws is not to punish anyone but to stop certain crimes from being committed.

### About Unlawful (Activities) Prevention Act (UAPA)

- **Background:** The Unlawful Activities (Prevention) Act is an anti-terrorism law in India that was first introduced in 1967.
- **Purpose:** The purpose of UAPA is to prevent unlawful activities that threaten the sovereignty and integrity of India.
- **Amendments:** UAPA has undergone several revisions since its introduction, with each revision making the law more stringent. Till 2004, “unlawful” activities referred to actions related to secession and cession of territory. Following the 2004 amendment, terrorist act was added to the list of offences.
- **Provisions:** UAPA provides for the designation of individuals and organizations as “terrorists” and allows for their arrest and detention without trial for up to 180 days.
- **Criticisms:** UAPA has been criticized for being used to stifle dissent and suppress political opposition. Critics argue that the law is vague and overbroad, allowing for its misuse and abuse.

### Topic 74. SCIENTISTS UNCOVER ZEALANDIA

#### *Important for the subject: Geography*

Geoscientists recently discovered a **continent known as Zealandia** that had been **hiding in plain sight for almost 375 years.**

### Some facts about Zealandia

- It is a **long, narrow microcontinent** that is mostly **submerged in the South Pacific Ocean**.
- It is located in the **southwestern Pacific Ocean**, primarily to the **east of Australia and to the south of New Caledonia**. It encompasses the region that includes New Zealand and New Caledonia.
- It is approximately **1.89 million square miles in size, about half the size of Australia**.
- The vast majority of this new continent **lies beneath 6,560 feet of water**. The part of Zealandia that is above water **forms the foundation of New Zealand's north and south islands as well as the island of New Caledonia**.
- Zealandia is situated along the **boundary of several tectonic plates**, including the **Australian Plate, Pacific Plate, and Indo-Australian Plate**.
- The existence of Zealandia was **first recorded in 1642 by Dutch businessman and sailor Abel Tasman**, who was on a mission to find the **“great Southern Continent,”** or Terra Australis.

### How Zealandia is formed:

- **Zealandia or Te Riu-a-Māui** in the **Māori language** was formally one of the constituent continents of the **ancient supercontinent called Gondwana**, which also included Western Antarctica and Eastern Australia over 500 million years ago.
- It began to **“pull away” from Gondwana roughly 105 million years ago**. As **Zealandia started pulling away**, it began to sink beneath the waves, with over **94 percent remaining underwater for millennia**.

### Topic 75. CLUES TO ANCIENT KOSI SUPERFLOOD SAY IT COULD HAPPEN AGAIN TODAY

#### *Important for the subject: Geography*

A study led by an IIT Kanpur scientist has found that an ‘extreme monsoon event’ occurred around 11,000 years ago.

A team of geologists, including researchers from IIT Kanpur and the Universities of Edinburgh and Glasgow, has undertaken a study to reconstruct ancient river floods in the Gangetic plain dating back 23 to 5 million years ago during the **Miocene era**.

- They **utilized sedimentary cores** from beneath the **Karnali, Ganga, and Kosi rivers to examine changes** in sediment composition over time.
- Surprisingly, they discovered that **climate change-related events and seismic activities occurring today could result in super-floods** that pose a severe threat to the population in the Gangetic plain.
- This revelation **underscores the need for an immediate overhaul** of India’s disaster management strategy to account for **“cascading hazards,”** which refer to natural disasters triggered by other disasters.

- The study's origins lay in an unusual observation that **older sedimentary layers contained large particles downstream from the usual gravel-sand transition point.**
- Investigating this anomaly led the researchers to the **Mohand anticline in Uttarakhand**, where they analyzed sediment layers to estimate deposition times.
- Their findings suggested that an **"extreme monsoon event" occurring every 200-1,000 years**, combined with **hyperconcentrated flows caused** by triggers like landslides, could result in catastrophic floods.
- The increased **likelihood of extreme monsoons and landslides due to climate change poses a growing risk** to regions prone to such events.
- The study advocates **for an integrated disaster management approach that considers the interconnectedness of earthquakes, landslides, and floods** to better mitigate these complex cascading effects.

### Topic 76. PM ANNOUNCES SETTING UP OF NATIONAL TURMERIC BOARD

*Important for the subject: Geography*

announces setting up of National Turmeric Board Prime Minister Narendra Modi announced the **formation of a National Turmeric Board** to support turmeric farmers, addressing a long-standing demand.

- He highlighted India's **significant role in turmeric production** and emphasized the need for a professional approach in the entire turmeric value chain, given increased global **demand post-Covid.**
- India is the **world's leading turmeric producer**, and aims to enhance its turmeric industry through this initiative.

#### **Turmeric:**

- **Turmeric (Curcuma longa):** It is a **perennial herbaceous plant of the ginger family.** The plant's underground stems or rhizomes have been used as a spice, dye, medicine, and religious maker since antiquity.
- **Significance:** The spice's color comes mainly from **curcumin**, a bright yellow phenolic compound that has been in the news for its ostensible **potential to fight cancer.** As a result, the demand for turmeric with high curcumin content has risen.
- **Climate:** It requires temperatures between **20 and 30 °C** (68 and 86 °F) and a considerable amount of annual rainfall to thrive.
- **Largest Producer:** **India is the largest producer and exporter** of turmeric in the world. Turmeric occupies about 6% of the total area under spices and condiments in India.
- **Largest Producer State:** **Telangana** was the leading producer of turmeric in India during 2018. Maharashtra and Tamil Nadu were second and third in the ranking that year.



**local area within a relatively short period.** The time span used to define a swarm varies, but may be days, months, or years.

- Such an energy release is different from the situation when a major earthquake (main shock) is followed by a series of aftershocks: in earthquake swarms, no single earthquake in the sequence is obviously the main shock. In particular, a cluster of aftershocks occurring after a mainshock is not a swarm.

#### **Crater seamount:**

- A **seamount** is a **large submarine landform** that rises from the ocean floor without reaching the water surface (sea level), and thus is **not an island, islet, or cliff-rock**. **Seamounts** are typically **formed from extinct volcanoes** that rise abruptly and are usually found rising from the seafloor to **1,000–4,000 m** (3,300–13,100 ft) in height.

#### **Andaman-Nicobar Volcanic arc:**

- The **Andaman-Nicobar Basin** has evolved through a complex history of tectonics associated with the **convergent plate boundaries** between **Indian plate** and **west Burmese plate**.
- The Andaman-Nicobar basin was initiated with the **northward drift of the Indian Plate** with respect to **Asia**. The **collision of Indian/Eurasian plates** initiated along the irregular boundary and occurred at the same time as the oceanic subduction beneath **southern Eurasia**.
- The continental collision slowed down the oceanic spreading rates in the Indian Ocean and slowed down the subduction velocity along the Sunda Arc system. It resulted in a phase of extension in the adjacent **Fore-Arc** and **Back-Arc areas**.

#### **Major Tectonic elements of Andaman-Nicobar region are:**

- Andaman Trench/Inner slope
- Outer High/Trench slope break
- Fore Arc Basin
- Volcanic Arc
- Back Arc Basin
- Mergui Terrace

### **Topic 78. CIRCULAR MIGRATION: LOOKING AT BOTH SIDES OF THE DEBATE**

*Important for the subject: Geography*

#### **Circular migration:**

**Circular migration** is a **repetitive form of migration** wherein people move to another place (the destination country) and back (country of origin) according to the availability of employment. It is **not a permanent movement** and the **migration takes place for a brief period of time when work is available**.

- It is a phenomenon mostly among **low-income groups** who migrate to avail of seasonally



available jobs in another country, city, place etc.

### Defining circular migration:

According to **Philippe Fargues**, migration can be defined as circular if it meets the following criteria:

- There is a temporary residence in the destination location,
- There is the possibility of multiple entries into the destination country,
- There is freedom of movement between the country of origin and the country of destination during the period of residence,
- There is a legal right to stay in the destination country,
- There is protection of migrants' rights, and
- If there is a healthy demand for temporary labor in the destination country.

**But how many times does a migrant have to move between countries to be called a circular migrant?**

- As per the report on measuring circular migration by the **United Nations Economic Commission for Europe Task Force**, one is called a **circular migrant** if you have completed at least **'two loops'** between two countries.
- In short, if your primary destination is the country of origin and if you move periodically between two countries for purposes of economic advancement such as employment, business etc., you can be considered a **circular migrant**.

### Emergence of circular migration:

- Emerged during the **1960s and 70s** with the advent of **globalization and development**.
- Increased access to modern forms of transport and communication, social networks and the growth of multinational corporations have aided the advent of circular migration.

### Impact of migration on policy formation:

- Migration from one country to another **creates brain drain for their origin countries and competition for the citizens of the destination countries**.
- The **flow of people moving from rural areas to more urban areas** of the same country, results in the **breakdown of infrastructure and agrarian stagnation**.
- Therefore, migration of any kind has become a policy hazard.
- **Drawbacks:** Brain drain, Cultural conflicts

### Circular migration- a balanced migration method:

- Through this the needs of development and individual economic advancement can be balanced out.
- **In origin countries**, it is beneficial due to the **flow of remittances** which will **boost and aid the domestic economy**. The **flow of foreign capital** will enhance the economy ensuring more infrastructure, more jobs and by association, a better standard of living.
- **In destination countries**, a lesser population and a higher access to education has resulted in a **large dearth of low-income low-skill jobs** which migrants have been able to fill.
- Through circular migration, the brain drain will reduce and a **sort of brain circulation will be encouraged**, wherein the individual can use his talents in both countries and still

contribute to remittances.

- **Circular migration** offers a way out to the governments of destination countries as migrants will circulate back to their home areas.
- Labour can be introduced to undertake essential functions but it will not remain and become a permanent part of the population. This way **circular migration can be “sold” to the populations of the host countries** with the claim that these **laborers will eventually go home**.

#### **Circular migration within India:**

- In India, internal migration has almost always been circular.
- Between **2004–2005** and **2011–2012**, the **construction sector** witnessed one of the **largest net increases in employment for all workers**, specifically for rural males.
- In India, the **uneven development post-liberalisation**, has led to a lot of **inter-State migration**, with States like **West Bengal, Odisha and Bihar** having some of the **highest rates of out-migration**.
- Initially, while most of the migration was to **Delhi**, nowadays it has **increased to southern States as well**.
- **Positive outcomes:** Increased access to higher paying jobs when compared to origin States, better household welfare due to remittances, ease of mobility and **women get more autonomy and decision-making power in the family** due to the absence of men who migrate.
- **Negative outcomes:** Middlemen or brokers, work in unhygienic and unsafe conditions with little to no protective equipment, seasonal or irregular work, loss of livelihood due to pandemic (for example- Covid-19 virus pandemic), indigenous wage groups and unions resent these migrants as they are seen as **taking away their jobs by agreeing to work for lower wages**.
- It is considered as **subsistence migration**– a bare minimum.

#### **Awaz health scheme:**

- **Kerala** has announced **health insurance schemes for migrant workers** (Awaz Health scheme).
- **Aim:** to provide **health insurance (upto 15000)** and **accidental death coverage (upto 2 lakh)** for **migrant workers** living in the state.
- This is a **first of its kind scheme** intended for migrant laborers working in a state in India.
- Announced by the Kerala government in **November 2017**.
- **Eligibility:** between the age of 18 years and 60 years.

**Topic 79. HIRAKUD AND 7 OTHER ODISHA WETLANDS SHOW HIGH LEVELS OF TOXIC HEAVY METALS**

*Important for the subject : Geography*



**High levels of cancer-causing heavy metals** such as **lead** and **chromium** have been found in **eight wetlands in Odisha**, including **Hirakud**.

**Heavy metal pollutants** that commonly accumulate in wetlands as a result of human activity include **lead, chromium, cadmium, copper, mercury, nickel, zinc, manganese and arsenic**. These metals can enter **crops** through the **soil**, which are then consumed by humans.

- The heavy metals can also **enter the environment indirectly through the food chain**.
- **Eight wetlands (of Odisha)** are being selected for the study: Natural ones such as **Chandaneswar, Chilika, Daringbadi** and **Koraput** as well as constructed ones like **Bhadrak, Hirakud, Talcher** and **Titlagarh**.
- Highest concentrations of **lead** (51.25 micrograms per gram) and **chromium** (266 micrograms per gram) were recorded in **Hirakud**. Highest concentration of **copper** at the **Bhadrak** site.
- The highest **Ecological Risk Index (RI)** was found in **Hirakud**, followed by **Talcher, Bhadrak, Titlagarh, Chilika, Chandaneswar, Koraput** and **Daring badi**.
- The health of the local community is at risk if they consume rice contaminated with heavy metals.

**About Hirakud reservoir:**

- One of the largest human-made reservoirs and a **ramsar site** in India. Built across the **Mahanadi River** by a combination of **earth and modern dams** of a total length of almost 26 kilometers.
- The reservoir helps regulate the water level of the river and moderates the impact of floods in the **Mahanadi Delta**.

**Daringbadi hills:**

- Daringbadi is a hill station in **Kandhmal district** of **Odisha** state in eastern India. Widely

known as “**Kashmir of Odisha**”, (for its climatic similarity), it is situated at a height of 915 metres and is a popular tourist destination.

#### Talcher, Odisha:

- **Talcher coalfield** is one of the largest storehouses of power grade coal in India.
- There is a **Heavy Water Nuclear Power Plant** in talcher.

#### Mahanadi river:

- The Mahanadi River is a **major river in East Central India**.
- **Mahanadi** is also known for the **Hirakud Dam** which was the first major multipurpose river valley project after India’s independence in 1947.
- The river flows through the states of **Chhattisgarh and Odisha** and before finally ending in the **Bay of Bengal**.
- **Origin:** Nagri-Sihawa, Dhamtari, Dandakaranya, **Chhattisgarh, India**.
- **Mouth:** False Point, Jagatsinghpur, Delta, Odisha, India

#### Tributaries:

- **Left-** Seonath, Mand, Ib, Hasdeo, Kelo
- **Right-** Ong, parry, Jonk, Telen

### Topic 80. UNITED NATIONS STATISTICAL COMMISSION

*Important for the subject: International Relations*



India’s official statistical system is under UNSC’s scrutiny.

The United Nations Statistical Commission, established in 1946, is the highest body of the global statistical system bringing together the Chief Statisticians from member states from

around the world.

- It is the highest decision making body for international statistical activities, responsible for setting of statistical standards and the development of concepts and methods, including their implementation at the national and international level.
- 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**.

### Composition:

- The Commission consists of **24 member** countries of the United Nations elected by the United Nations Economic and Social Council based on an equitable geographical distribution according to the following pattern:
  1. Four members from Africa
  2. Four members from Asia-Pacific States
  3. Four members from Eastern European States
  4. Four members from Latin American and Caribbean States
  5. Seven members from Western European and other States.

### India's Performance:

- India's **ranking** was 67 among 174 countries in 2019. India has been **elected** to the highest statistical body of the United Nations for a four-year term beginning January 1, 2024.
- India was a member of the Statistical Commission last in 2004 and the country is returning to the UN agency after a gap of two decades.

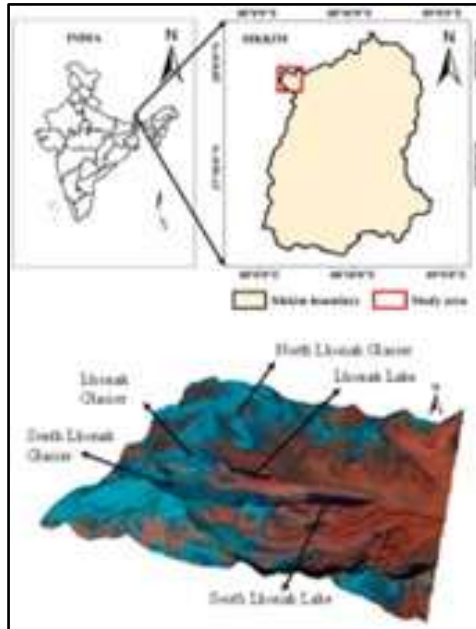
### Methodology:

- The World Bank compiles **Statistical Performance Indicators(SPIs)** to assess the performance of national statistical systems across 174 countries.
- The SPIs is based on the assessment of **five dimensions** of performance, commonly referred to as the five pillars of a national statistical system.
- **Five Pillars of SPI are:** Data use, Data services, Data products, Data sources, Data infrastructure.



**Topic 81. AT LEAST SEVEN DEAD AS GLACIAL LAKE BURSTS IN SIKKIM**

*Important for the subject : Geography*



The flash floods are believed to have been triggered after a lake, formed from the gradual melting of a Himalayan glacier, suddenly overflowed and inundated the **Teesta river basin**.

**Cause of flash flood:** The **South Lhonak lake** in northern Sikkim burst and led to the collapse of **Chungthang dam**.

**Areas impacted:** Mangan, Gangtok, Pakyong, and Namchi.

- The Himalayas are estimated to have about 7,500 lakes, of which nearly 10% are in Sikkim. The **Teesta 3 hydropower project** is operated by **Sikkim Urja**, which is **60%** owned by the Sikkim government.
- The **Lhonak lake overflow** is reminiscent of the **2021 deluge** that resulted from an avalanche involving the **Nanda Devi glacier** in the Himalayas that flooded the **Rishiganga river** in Uttarakhand and washed away at least two hydroelectric power projects — the 13.2 MW **Rishiganga hydroelectric power project**, and the **Tapovan project** on the **Dhauliganga river**, a tributary of the **Alakananda**.

**Lhonak lake:**

- **South Lhonak Lake** is a **glacial-moraine-dammed lake**, located in Sikkim's far northwestern region.
- It is one of the **fastest expanding lakes** in the **Sikkim Himalaya region**, and one of the **14 potentially dangerous lakes** susceptible to **Glacial lake outburst flood (GLOFs)**.

**Scientists' warnings:**

- Scientists at the **Indian Institute of Science (IISc)** in **Bengaluru** and the **Indian Space Research Organisation (ISRO)**, through multiple studies in **2013** and **2019**, have warned that the **South Lhonak lake** was “**potentially hazardous**” and cautioned the authorities to keep an eye on it as it was expanding “dangerously.”
- **Lhonak** has grown nearly **1.5 times** and **South Lhonak** nearly **2.5 times** their initial size in **1989**. An earthquake of magnitude 4.9 on Sept 21, 1991 (as reported by United States Geological Survey) near the parent glacier feeding the **South Lhonak Lake** and the recent earthquake (magnitude 6.9) of Sept 18, 2011 approximately 70 km from the lakes and future earthquakes **may trigger the GLOF events**.

#### **Glocal lake outburst flow (GLOF):**

- A **glacial lake outburst flood (GLOF)** is a type of outburst flood caused by the failure of a dam containing a glacial lake.
- An event similar to a **GLOF**, where a body of water contained by a glacier melts or overflows the glacier, is called a **jökulhlaup**.
- The dam can consist of **glacier ice** or a **terminal moraine**. Failure can happen due to erosion, a buildup of water pressure, an avalanche of rock or heavy snow, an earthquake or cryoseism, volcanic eruptions under the ice, or massive displacement of water in a glacial lake when a large portion of an adjacent glacier collapses into it.
- Example: GLOF at **Chorabari Tal glacial lake** that led to **kedarnath flooding** in 2013.

#### **Increasing Causes of GLOF:**

- glacial melting because of climate change, alongside other environmental effects of climate change (i.e permafrost melting) mean that regions with glaciers are likely to see increased flooding risks from GLOFs. This is especially true in the Himalayas where geologies are more active.
- **GLOF** can be triggered by several reasons, including earthquakes, extremely heavy rains and ice avalanches.

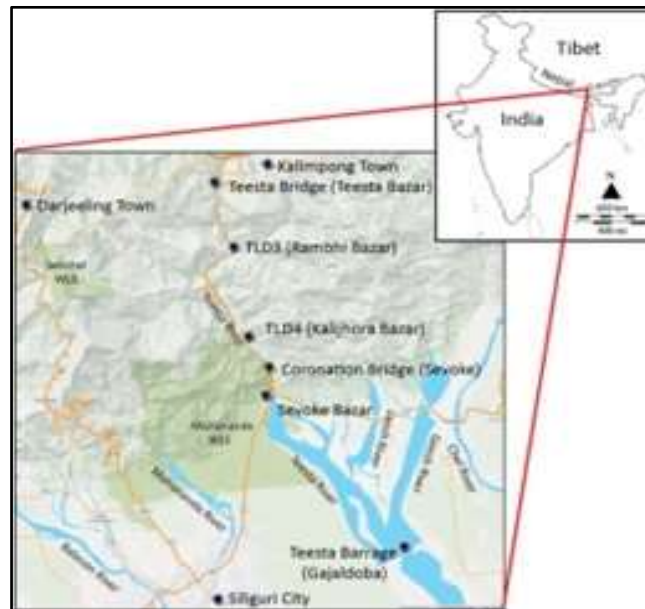
#### **Regions vulnerable to GLOF:**

- A 2023 study found **15 million people at risk** from this hazard, mostly in **China, India, Pakistan, and Peru**.
- **Glacial lake outburst floods (GLOF)**, as such events are called, are a major concern in **Bhutan, Tibet, India, Nepal, and Pakistan**.
- The IISc study had recommended measures like early warning systems and mitigation measures to be put in place in potential GLOF areas.

#### **Teesta river:**

- Teesta River is a 414 km (257 mi) long river that rises in the **Pauhunri Mountain** of **eastern Himalayas**, flows through the **Indian states of Sikkim and West Bengal** and subsequently enters **Bangladesh** through **Rangpur division**.

- In Bangladesh, it falls into **Brahmaputra River** which after meeting some other major rivers of **Bengal delta** finally falls into the Bay of Bengal.
- In India, it flows through **Mangan District, Gangtok District, Pakyong District, Kalimpong district, Darjeeling District, Jalpaiguri District, Cooch Behar districts and the cities of Rangpo, Jalpaiguri and Mekhliganj.**
- It joins the **Brahmaputra River at Phulchhari Upazila in Bangladesh.** 305 km (190 mi) of the river lies in India and 109 km (68 mi) in Bangladesh.
- Teesta is the **largest river of Sikkim and second largest river of West Bengal** after the **Ganges.**



## Topic 82. KARNATAKA FACING ‘GREEN DROUGHT’ SAYS MINISTER

*Important for the subject : Geography*

Centre’s drought review team starting its tour of **13 drought-affected districts in Karnataka.** The **10-member inter-ministerial Central team,** led by **Joint Secretary of Agriculture department Ajit Kumar Sahu,** will be touring Belagavi, Vijayapura, Bagalkote, Dharwad, Gadag, Koppal, Ballari, Vijayanagar, Chickballapura, Tumakuru, Chitradurga, Davangere, and Bengaluru Rural districts.

- The State government has urged the team to understand the **impact of rainfall deficiency on agriculture** rather than arriving at a conclusion looking at the standing crops.

**What is ‘green drought’?**

- **Green drought** is when the **vegetation may appear green on the top, but there is**

stunted growth and soil moisture stress for more than a month impacting yield drastically.

- This phenomenon is particularly problematic because it can be challenging to detect and monitor.

#### Green drought situation in Karnataka:

- There are **15 states** that are facing drought, only **Karnataka** has declared drought and approached the Centre so far.
- In drought-hit regions of Karnataka the height of a tur plant, which is still green, has come down to **2.5ft** as against the normal **5ft**. The yield has fallen.
- Usually, each bunch of green gram will have **200 gm yield**. This has come down to **50 gm now**.
- Karnataka has witnessed **15 drought years** between **2001 and 2022**. **Agricultural crop loss** on **39.74 lakh hectares**. **Horticultural crop loss** on **1.82 lakh hectares**.
- Most crops like **paddy, ragi, red gram, groundnut, sunflower and cotton** are usually sown in **July and August**; This year, however, they remain unsown due to erratic distribution of rain.
- **Geo-fencing** of 20,221 plots done. Overall in all **196 taluks**, **85 percent** of the ground truth reveals **more than 50 percent crop loss**.

#### Topic 83. FIRST PUBLIC SECTOR CARAVAN PARK IN KERALA TO COME UP AT BEKAL

*Important for the subject: History*



Kerala has decided to set up a caravan park at Bekal fort in **Kasaragod district of Kerala**.

Proposals to set up more **caravan parks** at **Ponmudi** in **Thiruvananthapuram** and **Bolgatty Palace** in **Kochi**. The **caravan park** at **Bekal** will be the **first public sector park** in the State. Currently, there is **only one caravan park** in the State named '**Karavan Meadows**', run by a private player at **Wagamon**.

#### **Bekal fort:**

- Bekal Fort is a medieval fort built by **Shivappa Nayaka** of **Keladi** in **1650 AD**, at Bekal. It is the **largest fort in Kerala**, spreading over 40 acres (160,000 m<sup>2</sup>).

#### **Structure:**

- The fort appears to emerge from the sea. Almost three-quarters of its exterior is in contact with water.
- An important feature is the **water-tank**, **magazine** and the **flight of steps** leading to an observation tower built by **Tipu Sultan**.
- Its solid construction resembles the Thalassery Fort and the St. Angelo Fort at Kannur built by the Dutch.

#### **Historical perspective:**

- After the **Battle of Talikota** in **1565** feudatory chieftains including the **Keladi Nayakas (Ikkeri Nayaks)** became powerful in the region. **Bekal** served as a hub to first dominate, then later defend **Malabar**.
- The **economic importance** of this port town prompted the **Nayakas to fortify Bekal** subsequently. **Hiriya Venkatappa Nayaka initiated the construction of the fort** and it was **completed in 1650 AD by Shivappa Nayaka**.
- **Chandragiri fort** near **Kasargod** was also built during this period. The struggles between the **Kolathiries** and **nayaks** to hold this area ended when **Hyder Ali** conquered the **Nayakas** and **Bekal fell into the hands of Mysore kings**.