

# CivilsTap

Quality & Affordable Education



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By CivilsTap Himachal

FOR HPAS &  
other competitive  
Exam in  
Himachal Pradesh

**Prelims**

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# 1. POLITY

## 1.1 TRIBES IN JAMMU AND KASHMIR

- ❖ The government has brought a **Bill to include four communities in the list of Scheduled Tribes (STs) in Jammu and Kashmir: "Gadda Brahmin", "Koli", "Paddari Tribe", and "Pahari Ethnic Group"**.
- ❖ The **proposed expansion** of the ST list has **triggered unrest among the Gujjar-Bakerwal**.
  - ✓ With a population of almost **18 lakh**, the **Gujjar-Bakerwal** are the **third largest group after Kashmiris and Dogras in J&K**.
  - ✓ They were **given ST status in 1991**, along with the two smaller groups of **Gaddis and Sippis**.
- ❖ Gujjar-Bakerwal leaders are especially agitated with the **proposed ST status for Paharis and Paddaris**.
  - ✓ **Gadda Brahmins** and **Kolis** are **very small communities**; also, according to the protesters, **Gadda Brahmins are a branch of the Gaddis** while **Kolis are a sub-caste of Sippis** — both these communities are already in the ST list.

### ABOUT PAHARI AND PADDARI TRIBES

- ❖ **Pahari tribe** are **Hindus, Muslims and Sikhs**, and include people of Kashmiri origin who settled in districts of **Rajouri and Poonch**.
- ❖ **Paddari tribe** lives in the remote Paddar area of the hilly Kishtwar district.
  - ✓ The **2011 census** recorded the Paddari population at **21,548**, comprising **83.6% Hindus, 9.5% Buddhists, and 6.8% Muslims**.
  - ✓ **Paddari homeland** borders **Zaskar (Ladakh) in north and east, Pangi (Himachal Pradesh) in south**, and **rest of J&K in west**.

### THE OPPOSITION

- ❖ **Gujjar-Bakerwal opposition** to the **proposed inclusion of the Paddari Tribe in the ST list** is based on the argument that **they do not constitute a single ethnic group**, but are a **mix of individuals from different castes and religions who speak a particular language**.

## 1.2 GITA MITTAL COMMITTEE

- ❖ CJI D.Y. Chandrachud announced in open court that the **Supreme Court would appoint an all-woman committee of three former High Court judges**, headed by **Justice Gita Mittal**, former Chief Justice of the Jammu & Kashmir High Court, to provide a **"healing touch" in violence-torn Manipur**.
- ❖ **Justice Shalini Phansalkar Joshi**, a retired Bombay High Court judge, and **Justice Asha Menon**, a former Delhi High Court judge, **will be the members of the committee**.
- ❖ This will be a **broad-based committee** which will be **constituted to supervise, intervene and monitor relief and rehabilitation, restoration of homesteads, religious places of worships, better relief work, etc**.

## 1.3 NO CONFIDENCE MOTION

- ❖ In a **parliamentary democracy**, a government can be in power only if it **commands a majority in the directly elected House**.
- ❖ **Article 75(3)** of our Constitution embodies this rule by **specifying that the Council of Ministers are collectively responsible to the Lok Sabha**.
- ❖ A **No confidence Motion** is a **parliamentary process** that signifies that the present government is **no longer deemed fit to hold positions of responsibility**.
- ❖ **Any Lok Sabha MP**, who can **garner the support of 50 colleagues**, can, at **any point of time**, introduce a **motion of no-confidence against the Council of Ministers**.
  - ✓ Thereafter, a **discussion on the motion takes place**.
  - ✓ **MPs who support the motion highlight the government's shortcomings**, and the **Treasury Benches respond to the issues they raise**.

- ✓ Finally, a vote takes place – in case the motion carries, the government is bound to vacate the office.
- ❖ A no confidence motion can only be moved in the Lok Sabha.
- ❖ No prior reason needs to be stated for its adoption.
- ❖ It is not specifically mentioned in the Constitution.
- ❖ It was during the 3<sup>rd</sup> Lok Sabha in 1963 that the first motion of no confidence was moved by Acharya J B Kripalani against the government headed by Prime Minister Jawaharlal Nehru.
- ❖ Since then, there have been 26 more no-confidence motions moved in the parliament (not counting the latest one), with the last one being in 2018, moved by the TRS against the previous Narendra Modi government.

#### 1.4 INDIA'S FIRST VILLAGE ATLAS

- ❖ Goa's CM released a biodiversity atlas of Mayem village in North Goa, which he termed as "India's first village atlas".
- ❖ This unprecedented atlas offers a comprehensive socio-cultural history that traces back to the 12th century.

#### 1.5 ZONAL COUNCILS

- ❖ Union Home Minister chaired the 26<sup>th</sup> meeting of the Western Zonal Council at Gandhinagar
- ❖ The composition of Zonal Councils is as under:
  - ✓ **Northern Zonal Council**- Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, National Capital Territory of Delhi and Union Territory of Chandigarh; **HQ- New Delhi**
  - ✓ **Western Zonal Council** - Gujarat, Goa, and Maharashtra and the Union Territories of Dadra and Nagar Haveli and Daman and Diu. **HQ- Mumbai**
  - ✓ **Central Zonal Council**- Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh; **HQ- Prayagraj**
  - ✓ **Eastern Zonal Council**- Bihar, Jharkhand, Orissa, West Bengal; **HQ- Kolkata**
  - ✓ **Southern Zonal Council**- Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu and the Union Territory of Puducherry. **HQ-Chennai**

#### ABOUT ZONAL COUNCILS

- ❖ The idea of the creation of Zonal Councils was mooted by the first Prime Minister of India, Pandit Jawahar Lal Nehru, in 1956.
- ❖ Five Zonal Councils (Northern, Central, Eastern, Western and Southern) were established in the year 1957 under Section 15-22 of the States Reorganization Act, 1956.
- ❖ Objectives of setting up of Zonal Councils are as under :
  - ✓ Bringing out national integration;
  - ✓ Arresting the growth of acute State consciousness, regionalism, linguism and particularistic tendencies;
  - ✓ Enabling the Centre and the States to co-operate and exchange ideas and experiences;
  - ✓ Establishing a climate of co-operation amongst the States for successful and speedy execution of development projects.
- ❖ **Composition**
  - ✓ The Union Home Minister is the Chairman of these five Zonal Councils, while the Chief Ministers of the States included in the respective Zonal Council and the administrator and lieutenant governor of the union territories are its members.
  - ✓ Two more ministers from each state are nominated by the Governor as members of the council.
  - ✓ Each Zonal Council has also constituted a standing committee at the level of chief secretaries.
- ❖ The Chief Ministers of the States included in each zone act as Vice-Chairman of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.

Note:

- ❖ The **North Eastern Council**, set up under the **North Eastern Council Act, 1972**, includes **Assam, Arunachal Pradesh, Manipur, Tripura, Mizoram, Meghalaya, Nagaland and Sikkim**(added by amendment).
- ❖ **HQ- Shillong**

## 2.ECONOMY

### 2.1 CHERRY CULTIVATION

- ❖ The **prolonged cold weather and rains this year** have **devastated the cherry crop** when the harvest period was at its peak in the **Kashmir Valley**.

#### ABOUT CHERRY CULTIVATION

- ❖ Cherry is **considered a vital crop for the farmers in the Valley** as it provides **additional income to them in May-June**
  - ✓ All other fruits in Kashmir are harvested in autumn.
- ❖ **Eight cherry varieties grown in Kashmir** include **makhmali, siya, mishri, jaddi, Italy, dabal, vishkan and stela**.
  - ✓ Four among eight varieties, mainly **mishri, jaddi, makhmali and dabal**, have good demand in the market.
  - ✓ **Mishri is considered sweeter than all other varieties**.
- ❖ The **annual production of the stone fruit is around 12,000 metric tonnes**, making **Jammu and Kashmir the largest cherry producer in India**, according to official figures.
- ❖ The **Kashmir Valley contributes to 95% of the total cherry production in India**.
- ❖ Cherry is being **cultivated in the region on around 2,800 hectares**, which yields an annual turnover of around Rs 130-150 crore.
- ❖ Kashmir annually sends around 3,500-4,000 metric tonnes of cherries to other states of India.
- ❖ Cherry is a **delicate crop and extremely sensitive to extreme weather conditions**, requiring a **moderate temperature for optimal growth**.
- ❖ Having a **very low shelf life**, cherries cannot sustain heavy rains or high temperatures.

### 2.2 ACCOUNT AGGREGATOR

- ❖ **Securities and Exchange Board of India (SEBI)** has released a proposal aimed at improving the safeguards within the account aggregator (AA) framework in securities markets to counter scams and mis-selling.

#### ABOUT ACCOUNT AGGREGATOR

- ❖ An AA is a **framework that simply facilitates sharing of financial information in a real-time and data-blind manner** (Data flow through AA are **encrypted**) between **regulated entities (Banks and NBFCs)**.
- ❖ The RBI (Reserve Bank of India) in 2016 approved AA as a **new class of NBFC (Non Banking Financial Companies)**, whose **primary responsibility is to facilitate the transfer of user's financial data with their explicit consent**.
- ❖ AAs **enable flow of data between Financial Information Providers (FIPs) and Financial Information Users (FIUs)**.
- ❖ The Draft **Data Empowerment and Protection Architecture (DEPA) framework** released by **NITI Aayog** serves as the **foundation for AA's architecture**.
  - **DEPA** is an architecture that **lets users securely access their data and share the same with third parties**.
- ❖ In AA, **data cannot be shared without the consent of individual**.
- ❖ AA system **can make lending and wealth management a lot faster and cheaper**.
- ❖ Registering with an AA is **fully voluntary** for consumers.



**2.3 INVITS**

❖ The Centre is working on a proposal to launch a **fresh InvIT for national highways**, where domestic retail investors can hold units of the trust.

**ABOUT INFRASTRUCTURE INVESTMENT TRUST (INVIT)**

- ❖ INVITS are **market traded investments regulated by Securities and Exchange Board of India.**
- ❖ It is **Collective Investment Scheme** similar to a **mutual fund**, which **enables direct investment of money from individual and institutional investors in infrastructure projects.**
- ❖ InvITs are **recognized as borrowers under (SARFAESI) 'Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002'**
- ❖ Any **dividend or interest income** that one can get **from an InvIT is completely taxable** as per their Income Tax Slab rate.
- ❖ An InvIT **has 4 parties** namely; **Trustee, Sponsor(s) and Investment Manager and Project Manager.**
- ❖ While the **trustee (certified by SEBI) has the responsibility of inspecting** the performance of an InvIT, **sponsor(s) are promoters of the company that set up the InvIT.**

**2.4 SOME RECENT G I TAGS**

- ❖ **Seven products** from across India, including **four from Rajasthan**, were given the **Geographical Indication (GI) tag by the Geographical Indications Registry in Chennai (under Geographical Indications of Goods (Registration and Protection) Act, 1999).**
- ❖ The **GI tags were secured by –**

GI TAG PRODUCT	STATE	DESCRIPTION
Jalesar Dhatu Shilp	Uttar Pradesh	Includes <b>decorative metal craft and brassware</b> (like anklets, bells) practiced by <b>Thatheras community.</b>
Goa Mankurad Mango	Goa	also known as <b>malcorada, cardozo mankurad, corado, and Goa mankur.</b> The Portuguese named the fruit malcorada, which means <b>'poor coloured'</b> , and with time, it became mankurad <i>aamo</i> (mango) in Konkani.
Goan Bebinca	Goa	also known as the <b>'queen of Goan desserts'</b> , is a <b>traditional Indo-Portuguese pudding.</b>
Udaipur Koftgari Metal Craft	Rajasthan	weapons are <b>exquisitely ornamented by a complicated process of etching designs</b> , heating, and then cooling, intertwined with embedding <b>gold and silver wire into the metal</b> , pressing and flattening it to a smooth surface with moonstone, and <b>finally polishing it.</b>
Bikaner Kashidakari Craft	Rajasthan	traditionally <b>created on cotton, silk or velvet with a variety of fine stitches and mirror-work</b> , mainly for objects associated with marriage, especially gift items.
Jodhpur Bandhej Craft	Rajasthan	Rajasthani <b>art of tying and dyeing.</b> The <b>fabrics used</b> for Bandhej are <b>muslin, silk and voile.</b> Cotton thread is used for tying the fabric.

<p><b>Bikaner Usta Kala Craft</b></p>	<p>Rajasthan</p>	<p>is also known as <b>gold nakashi</b> or <b>gold manauti work</b> due to the <b>prominence of its long-lasting golden colour</b>. Untreated raw <b>camel hide</b> is processed and moulded by the <b>Daggar community of leather craftspeople</b> for the requirements of the Usta.</p>
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**2.5 P-NOTES**

❖ Driven by stable macroeconomic fundamentals, investment in the Indian capital markets through **participatory notes** rose to **Rs 1.13 lakh crore** in **June-end**, making it the **highest level in five-and-half years**.

**ABOUT PARTICIPATORY NOTES**

- ❖ P-notes are **offshore derivative instruments** with **Indian shares** as the **underlying assets**.
- ❖ **Participatory notes (P-notes)** are issued by registered **Foreign Portfolio Investors (FPIs)** to overseas investors who wish to be part of the Indian stock market without registering themselves directly.
  - ✓ They, however, need to go through a **due diligence process** by **SEBI**.
- ❖ The **anonymity** provided by the **P- Notes** makes it **lucrative** for entities that try to use this route to **round trip funds**.

FPIs are **non-residents** who invest in **Indian securities** like **shares, government bonds, corporate bonds,**

**2.6 BHU-VISION**

- ❖ In a significant development for **agricultural technology**, a revolutionary **Internet of Things-based automated soil testing and agronomy advisory platform, Bhu-Vision** (also known as **KRISHI-RASTAA Soil Testing System**) was officially **launched at AICRP (ICAR-IIRR), Hyderabad**.
- ❖ The **KRISHI-RASTAA Soil Testing System** represents a **new era in precision agriculture**.
- ❖ The technology has been **jointly developed by ICAR-IIRR** (Indian Council of Agricultural Research -Indian Institute of Rice Research) and **KrishiTantra(an Agri-tech start-up)**.
- ❖ Manufactured by **HiMedia Laboratories** and **marketed by BhoomiSeva (HCF Tech Services Pvt. Ltd.)**, this system **seamlessly conducts 12 key soil parameter tests in just 30 minutes**.
- ❖ It provides **quick, accurate results directly to farmers and stakeholders** through a **soil health card** on their **mobile devices**.

**2.7 MILLETS**

- ❖ A **parliamentary standing committee** on **‘Coarse grains production and distribution’** has suggested
  - ✓ **setting up at least one shop in each district** through the **Khadi and Village Industries Commission (KVIC), Tribes India and women’s self-help groups (SHGs)** to **exclusively sell millets and millet-based products**, and
  - ✓ Asked the **government to explore the possibility of distributing millets under the targeted public distribution system (TPDS) and other welfare schemes**, as is already happening in some states.

**ABOUT MILLETS**

- ❖ **Millets** are **collective group of small-seeded annual grasses** that are **grown as grain crops**, primarily on **marginal land in dry areas of temperate, sub-tropical and tropical regions**.
  - ✓ These have been named and branded now as **Shree Anna**.
- ❖ India produces **all the nine commonly known millets** and is the **largest producer and fifth-largest exporter of millets in the world**.

- ❖ **Major millets** include sorghum, pearl millet and finger millet, while **minor millets** include foxtail, little millet, kodo, proso, and barnyard millet.
- ❖ Globally, **India, Nigeria and China** are the **largest producers of millets in the world**, accounting for **more than 55% of the global production**.
- ❖ **Advantages**
  - ✓ Millets are **drought-resistant, require less water and can grow in poor soil conditions**.
  - ✓ These are a **good source of fiber, protein, vitamins, and minerals**.
  - ✓ These are **naturally gluten-free**, making them **suitable for people with celiac disease or gluten intolerance**.
  - ✓ Millets can be **grown in a variety of soils and climates**, making them a **versatile crop option for farmers**.
- ❖ The **United Nations has declared 2023 as the International Year of Millets**.
  - ✓ **National Year of Millets** was celebrated in **2018**.

## 2.8 BHAGWA POMEGRANATE

- ❖ The **first trial shipment of fresh 'Bhagwa pomegranate'** has been **exported to the US** through the air route.
- ❖ This first export consignment was **initiated by Agricultural and Processed Food Products Export Development Authority (APEDA)** in collaboration with **National Plant Protection Organization (NPPO)** of India.
- ❖ '**Bhagwa**' pomegranate from **Maharashtra** has substantial export potential and **almost 50 % of the fruit's export from the country is from the state's Solapur district**.
- ❖ It has **high antioxidant content and super fruit characteristics**.

### POMEGRANATE CULTIVATION

- ❖ The **country ranks 7<sup>th</sup> in the production of pomegranate in the world**.
- ❖ The **total area under cultivation is around 2,75,500 hectares**.
- ❖ **Major pomegranate-producing states are Maharashtra, Gujarat, Karnataka, Rajasthan, and Andhra Pradesh**.
- ❖ Overall, **India is the second largest producer of horticulture crops**.

### ABOUT NATIONAL PLANT PROTECTION ORGANIZATION (NPPO)

- ❖ **Directorate of Plant Protection, Quarantine & Storage** is the **National Plant Protection Organization (NPPO)** of India.
- ❖ It **undertakes all phytosanitary responsibilities for export of Agriculture commodities** by providing technical inputs to **get foreign market access, phytosanitary inspection, treatment, certification etc. to promote safe trade**.

## 2.9 COMPULSORY CONVERTIBLE DEBENTURE

- ❖ **Foreign investors from Mauritius, Cyprus and Singapore** have been on the receiving end of a number of notices for gains from investment in **fully or compulsorily convertible debentures (CCDs)** issued by Indian companies.

### ABOUT DEBENTURES

- ❖ A **debenture is a medium- to long-term debt security issued by a company as a means of borrowing money at a fixed interest rate**.
- ❖ Unlike most investment-grade corporate bonds, **it is not secured by collateral**.
- ❖ It is **backed only by the full faith and credit of the issuing company**.
- ❖ In effect, **an unsecured corporate bond is a debenture**.
- ❖ A debenture comes in two forms – **non-convertible and convertible**.

- ✓ **Convertible debentures** can be converted into the company's equity after a predetermined period of time.
- ✓ A **compulsory convertible debenture (CCD)** is a type of bond which **must be converted into stock by a specified date.**
- ✓ It is **classified as a hybrid security**, as it is **neither purely a bond nor purely a stock.**
- ✓ Under FDI guidelines, **CCDs are treated as equity for the purposes of reporting to Reserve Bank of India.**

## 2.10 MUSHKBUDJI RICE GETS GI TAG

- ❖ Recently, **Mushkbudji Rice** received the Geographical Indication (GI) tag from Kashmir.
- ❖ It is a **short grain rice variety with distinctive aroma.**
- ❖ It is **grown in higher reaches of Kashmir valley majorly Anantnag district.**

## 2.11 AU BANK PROVIDES 24X7 VIDEO BANKING FACILITY

- ❖ **AU Small Finance Bank** has become **India's first bank to provide 24x7 Video Banking Service.**
  - ✓ It is **also the largest small finance bank in India.**
- ❖ The service **enables customers to engage in face-to-face video interactions with expert bankers**, akin to video calls.

## 2.12 COCOPONICS

- ❖ **ICAR-Indian Institute of Horticulture Research, Bengaluru (IIHR)** has developed a **variant of hydroponics, "Cocoponics"** or the **Soilless production of vegetables, using cocopeat as a substrate**, which has been found to be **comparatively more successful in many vegetable crops.**
- ❖ **Hydroponics** is a viable alternative to traditional farming methods for soil less cultivation for enhancing **productivity and water use efficiency.**
  - ✓ Hydroponics is a **new concept in India** and **gaining popularity among entrepreneurs and innovative farmers**, who are looking for sustainable and efficient ways to grow crops.
  - ✓ At present, **this technology is mostly confined to urban farming, rooftop gardening and commercial farming.**

## 2.13 ACCREDITED AGENT FOR HEALTH AND EXTENSION OF LIVESTOCK PRODUCTION PROGRAMME

- ❖ A-HELP is an initiative of the **Union Ministry of Fisheries, Animal Husbandry & Dairying** and the **Ministry of Rural Development.**
- ❖ **Aim-** To **empower women** by engaging them as **trained agents who contribute significantly to disease control, artificial insemination under Rashtriya Gokul Mission (RGM), animal tagging, and livestock insurance.**
- ❖ These women **assist veterinarians in local departmental activities, help livestock farmers to take loans** for entrepreneurship development, **fill out applications**, register animals in the **Information Network For Animal Productivity and Health (INAPH) portal** and help with insurance etc.
- ❖ Members of women self-help groups registered under the State Rural Livelihood Mission, who are helping in the form of Pashu Sakhi, will be trained as A-HELP.

## 2.14 PUBLIC TECH PLATFORM FOR 'FRICTIONLESS CREDIT' BY RBIH

- ❖ The **Reserve Bank of India (RBI)** has announced the **development of a pilot Public Tech Platform for 'frictionless credit'** by the **Reserve Bank Innovation Hub (RBIH).**

- ❖ The **Public Tech Platform** would enable delivery of frictionless credit by facilitating a seamless flow of required digital information to lenders.

#### WHAT IS FRICTIONLESS CREDIT?

- ❖ Under digitalization, the **digital credit delivery landscape** is characterised by a multitude of data points required for credit assessment, distributed among different entities such as central and state governments, banks, credit information agencies, digital identity authorities, and more.
- ❖ This impedes the seamless and timely dispensation of rule-based lending processes.
- ❖ **Frictionless credit** means to streamline digital credit delivery by creating an open architecture using **Application Programming Interfaces (APIs)** to integrate various financial stakeholders, enhancing efficiency and innovation.

#### ABOUT RBIH

- ❖ It is a **wholly-owned subsidiary** of RBI.
- ❖ RBIH aims to **create an ecosystem** that focuses on promoting access to financial services and products for the **low-income population** in the country.

### 2.15 FIRST MILE CONNECTIVITY

- ❖ To strengthen India's energy security and realize the vision of Atmanirbhar Bharat by reducing the reliance on imported coal, the **Ministry of Coal** is actively working on development of the **National Coal Logistic Plan**, which includes **First Mile Connectivity (FMC)** through railway siding near coal mines.
- ❖ First Mile Connectivity **eliminates road transportation** of coal in mining areas by using conveyors or roads to the nearest railway siding.
- ❖ A comprehensive tally of **67 First Mile Connectivity (FMC) Projects** with a combined capacity of **885 million metric tons**, are being progressively pursued in three phases to achieve a mechanized coal handling capacity of approximately **1 billion metric tons**.
- ❖ **Benefits-** By transporting coal through a conveyor belt or road to the nearest railway siding, **FMC reduces the number of trucks on the road** and the associated environmental impacts such as air pollution, traffic congestion, and road damage, leading to a cleaner and healthier environment.

### 2.16 INDIAN PHARMACOPOEIA COMMISSION

- ❖ PM was recently apprised of a **MoU signed between the Indian Pharmacopoeia Commission and Ministry of Health, Government of the Republic of Suriname** for Recognition of Indian Pharmacopoeia (IP) in Suriname.

#### ABOUT IPC

- ❖ Indian Pharmacopoeia Commission (IPC) is an **Autonomous Institution** of the **Ministry of Health and Family Welfare**.
- ❖ IPC is created to set standards of drugs in the country.
- ❖ Its **basic function** is to update regularly the standards of **drugs commonly required for treatment of diseases** prevailing in this region.
- ❖ It further promotes rational use of generic medicines by publishing **National Formulary of India**.
- ❖ It publishes official documents for improving Quality of Medicines by way of adding new and updating existing monographs in the form of **Indian Pharmacopoeia (IP)**.

- ✓ IP prescribes standards for identity, purity and strength of drugs essentially required from health care perspective of human beings and animals.

**National Formulary of India** is a manual that contains information about selected pharmaceutical drugs.

- ❖ It also includes administrative and regulatory information.
- ❖ Different formularies are created for different levels of health care.

- ❖ IPC also provides **IP Reference Substances (IPRS)** which act as a **finger print for identification of an article under test and its purity as prescribed in IP.**
- ❖ The Indian Pharmacopoeia (IP) is **officially recognized by five countries: Afghanistan, Ghana, Nepal, Mauritius and the Republic of Suriname.**
  - ✓ The Health Ministry seeks to expand the nations which recognize the IP.

## 2.17 UDGAM PORTAL

- ❖ The **Reserve Bank of India** has announced the launch of a **centralised web portal, UDGAM (Unclaimed Deposits – Gateway to access Information).**
- ❖ The RBI has developed a web portal to **facilitate the public to easily locate 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.

### UNCLAIMED DEPOSITS

- ❖ **Balances in savings / current accounts** which are **not operated for 10 years, or term deposits not claimed within 10 years from date of maturity** are classified as **“Unclaimed Deposits”.**
- ❖ These **deposits are transferred to the Depositor Education and Awareness fund** maintained by the central bank and **can be claimed by the respective depositor along with the applicable interest.**
- ❖ According to the RBI, as of February 2023, the **central bank had unclaimed deposits worth over INR 35,000 crore from 10.24 crore citizens.**

## 2.18 SAMUDRA APP

- ❖ **Indian National Centre for Ocean Information Services (INCOIS), under the Ministry of Earth Sciences (MoES),** has come out with a new mobile application **‘SAMUDRA’ - Smart Access to Marine Users for Ocean Data Resources and Advisories.**
- ❖ It offers **comprehensive information on all ocean related services,** useful for **both seafarers and the fishing community.**
- ❖ The app **empowers users with real-time updates and critical alerts on oceanic disasters** such as tsunamis, storm surges, high waves, and swell surge alerts, for the **individuals and communities to stay informed and take necessary precautions towards the protection of lives and property.**
- ❖ It will be **especially beneficial to the fishing community** as it **disseminates Potential Fishing Zone (PFZ) advisories** which **will guide them to the probable fish aggregation locations.**
- ❖ It is a **cutting-edge tool** helping users to **navigate the marine domain with confidence on their safety, and profitable fishing operations.**

## 2.19 MATTI BANANA GETS GI TAG

- ❖ **Matti banana, a native variety of Kanyakumari district, Tamil Nadu,** was recently granted the **Geographical Indication (GI) tag.**
- ❖ It is **also known as Baby banana.**
- ❖ **Matti banana has six types that differ in colour, aroma, taste, and texture, and are suitable for baby food and medicinal use.**

## 2.20 GABON ANNOUNCES DEBT FOR NATURE SWAPS

- ❖ Gabon recently announced a **\$500 million debt-for-nature swap** and agreed to a deal with the **Bank of America, the US International Development Finance Corporation (USDFC) and The Nature Conservancy (TNC),** to refinance the **amount in national debt toward marine conservation efforts** in the country.
- ❖ In Africa, **it is the largest such deal signed by any country to refinance its debt**

- ❖ Gabon's debt has been **restructured under a Blue Bond** in the **world's second-largest debt-for-nature swap**.
- ❖ This is the **fourth project** under TNC's "**Blue Bonds for Ocean Conservation**" strategy.
  - ✓ **Gabon is the fourth country** to partner with TNC on a Blue Bonds project **after Seychelles, Belize and Barbados**.
- ❖ This transaction **will enable the country to make annual contributions to an independent conservation fund** and an **endowment that will continue to fund conservation after the bonds are repaid**.

In May 2023, the **world's first and largest debt swap to conserve oceans** was signed by Ecuador.

The country had exchanged **\$1.6 billion** denominated bonds for a new **\$656 million** loan.

### ABOUT DEBT-FOR-NATURE SWAPS

- ❖ Debt-for-nature swaps **allow heavily indebted developing countries to seek help from financial institutions in the developed world** with **paying off their debt** if they agree to **spend on conservation of natural resources**.
- ❖ Usually **banks in developed countries buy the debts of such countries and replace them with new loans which mature later**.
- ❖ These have **lower interest rates**.

## 2.21 RBI REVISES IDF-NBFC NORMS

- ❖ Reserve Bank of India has **revised norms Infrastructure Debt Fund-NBFCs**.
- ❖ This has been done **in order to enable them play a greater role in financing of the infrastructure sector**.

### ABOUT IDF-NBFC

- ❖ An **IDF-NBFC is a company registered as NBFC to facilitate the flow of long-term debt into infrastructure projects**.
- ❖ They can **finance toll operate transfer (TOT) projects as the direct lender**.
- ❖ IDF-NBFCs are **non-deposit-taking entities**.

### GUIDELINES

- ❖ IDF-NBFCs will now be required to have a **net owned fund (NOF) of at least Rs 300 crore**
- ❖ They should have a **capital-to-risk weighted assets ratio (CRAR) of minimum 15% (with minimum Tier 1 capital of 10%)**.
- ❖ With a view to facilitating better asset-liability management (ALM), **IDF-NBFCs can raise funds through shorter tenor bonds and commercial papers (CPs) from the domestic market to the extent of up to 10 per cent of their total outstanding borrowings**.
- ❖ It raises **resources through issue of rupee or dollar-denominated bonds of minimum 5-year maturity**.
- ❖ IDF-NBFCs are **prohibited from sourcing the External Commercial Borrowings (ECB) loans from the foreign branches of Indian banks**.
- ❖ The **requirement of a sponsor for an IDF-NBFC has now been withdrawn** and shareholders of IDF-NBFCs would be subjected to scrutiny as applicable to other NBFCs, including NBFC-IFCs, RBI said.
- ❖ **All NBFCs would be eligible to sponsor IDF-MFs with prior approval of RBI subject to certain conditions**.

## 2.22 LOW-PUNGENT MUSTARD VARIETY

- ❖ Oilseeds yield is used **oil for cooking and frying and meal – the residual cake after extraction of oil from the seeds which is a protein-rich ingredient used in livestock, poultry and aqua feed**.

### MUSTARD IN INDIA

- ❖ India's **most significant domestically-grown oilseed is rapeseed-mustard**.
- ❖ Its **share in the country's production of vegetable oils has been estimated at 42.6%** (more than soyabean's 19.2%) and **in that of meal at 30.3%** (next to soyabean's 38.9%)

- ❖ Mustard seeds have high levels of glucosinolates, a group of sulphur and nitrogen-containing compounds contributing to the characteristic pungency of their oil and meal.

## ISSUES

- ❖ Pungent smell limits the oil's acceptability among consumers.
- ❖ Rapeseed meal is unpalatable to poultry and pigs, while having to be mixed with fodder grass and water for giving to cattle and buffaloes.
- ❖ Besides reducing their feed intake, high glucosinolates are also known to cause goiter (swelling of neck) and internal organ abnormalities in livestock.
  - ✓ Normal mustard (*Brassica juncea*) cultivated in India contain 120-130 parts per million (ppm or mg/kg) of glucosinolates.

## RESOLUTION

- ❖ Indian scientists have developed the first ever low-pungent mustard that is pest and disease-resistant.
- ❖ It is based on CRISPR/Cas9 gene editing, while being non-GM and transgene-free.
- ❖ It is produced through gene editing of 'Varuna', a high-yielding Indian mustard variety, using CRISPR/Cas9 gene editing technology.
  - ✓ Gene Editing incorporates modification of existing genetic material to improve the quality.

## 2.23 GUWAHATI AIRPORT GETS 'DIGI YATRA' FACILITY

- ❖ Guwahati's Lokpriya Gopinath Bordoloi International Airport (LBBI) has become the first airport in the north east to introduce the innovative 'Digi Yatra' facility.
- ❖ The Digi Yatra initiative has been introduced in collaboration with the Ministry of Civil Aviation, with the goal of modernizing air travel and streamlining airport processes.

## ABOUT DIGIYATRA

- ❖ It is a paperless entry at airports using facial recognition software.
- ❖ It envisages that travellers pass through various checkpoints at the airport through paperless and contactless processing, using facial features to establish their identity, which would be linked to the boarding pass.
- ❖ It is being implemented by the DigiYatra Foundation
  - ✓ Digi Yatra Foundation (DYF), is a not-for-profit company under section 8 of Companies Act 2013 incorporated on 20 February 2019.
  - ✓ Digi Yatra Foundation was set up with initial shareholding of Airport Authority of India (AAI), Cochin International Airport (CIAL), Bangalore International Airport (BIAL), Delhi International Airport Ltd. (DIAL), Hyderabad International Airport Ltd (HIAL) & Mumbai International Airport Ltd (MIAL).

## 2.24 ADVISORY BOARD FOR BANKING AND FINANCIAL FRAUDS (ABBFF)

- ❖ The Central Vigilance Commission (CVC) has reconstituted the advisory board on Banking and Financial Frauds (ABBFF).
- ❖ The reconstituted APBFF will be chaired by Suresh N Patel, former Central Vigilance Commissioner. Besides the Chairman, there are four Members and the tenure of the Chairman/ Members would be for two years with effect from August 21.
- ❖ The ABBFF conducts the first level examination of bank frauds before recommendations or references are made to investigative by agencies such as Central Bureau of Investigation (CBI).
- ❖ The Advisory Board for Banking and Financial Frauds (ABBFF) will examine the role of all levels of officials and whole-time directors (including ex-officials and ex-whole-time directors) in public sector banks, public sector insurance companies and public sector financial institutions in case of frauds amounting to Rs 3 crore and above.
- ❖ The CVC or the Central Bureau of Investigation (CBI) can also refer any case or technical matter to the board for its advice.



- ❖ The board can also give inputs for policy formulation related to frauds to the Reserve Bank of India and the CVC.
- ❖ The ABBFF — which will be headquartered in New Delhi — will have to ordinarily, within a month of receipt of the initial reference, tender the advice as may be requisitioned by the Ministry/Department/CVC or the investigation agency.

## 2.25 BHARAT NCAP

- ❖ The Ministry of Road Transport and Highways has rolled out an indigenous star-rating system for crash testing cars under which vehicles will be assigned between one to five stars indicating their safety in a collision.
- ❖ It is called the Bharat New Car Assessment Programme (NCAP).
- ❖ It will come into effect from October 1, 2023.
- ❖ The objective of the programme is to help consumers make an informed decision before purchasing a car, thereby spurring demand for safer cars.
- ❖ Under the Bharat NCAP, cars voluntarily nominated by automobile manufacturers will be crash tested as per protocols laid down in the Automotive Industry Standard 197.
  - ✓ In certain cases cars may be subjected to a crash test such as for a base model of a popular variant (minimum clocked sale of 30,000 units), or when the MoRTH recommends a model for testing based on market feedback or in the interest of public safety.
- ❖ The programme is applicable to passenger vehicles with not more than eight seats in addition to the driver's seat with gross vehicle weight not exceeding 3,500 kgs.
  - ✓ Only the base model of a particular variant will be tested.
- ❖ Cars will be assigned a rating between one star to five stars after being evaluated on three parameters — adult occupant protection, child occupant protection and safety assist technologies present in the car.

India sees nearly 1.5 lakh road fatalities in a year, accounting for 10% of deaths due to road crashes globally with only 1% of the world's vehicles.

According to a World Bank study, road crashes are estimated to cost the Indian economy between 5 to 7% of GDP a year.

## 2.26 MINIMUM EXPORT PRICE

- ❖ The Centre may be considering a minimum export price (MEP) for a host of specialty rice, including the basmati variety, to ensure that unscrupulous traders don't ship excess quantities abroad.

### ABOUT MEP

- ❖ MEP involves "fixing a floor price" below which an exporter shall not sell the product to an overseas customer.
- ❖ MEP is imposed in view of the rising domestic retail / wholesale price or production disruptions in the country.
- ❖ It aims to restrict export volumes and curtail domestic prices.
- ❖ It is a kind of quantitative restriction to trade.
- ❖ It is intended to be imposed for short durations and is removed when situations change.
- ❖ Section 5 of the Foreign Trade (Development And Regulation) Act, 1992, provides legal backing for MEP.

## 2.27 PROJECT AMBER

- ❖ The Ministry of Skill Development and Entrepreneurship (MSDE), in collaboration with Generation India Foundation (GIF) and Amazon Web Services India Private Limited (AWS India) is providing 'cloud' skills training to 1,500 learners and connecting them to employment opportunities, under project AMBER.
- ❖ The initiative has been undertaken under the SANKALP programme of MSDE with a focus on women to improve gender diversification in the tech industry and underprivileged groups.
- ❖ The project is co-funded by MSDE (under the SANKALP program) and private philanthropy.

- ❖ It aims to train 30,000 youth, 50% of whom will be women.

### WORKING

- ❖ Under this collaboration, the learners take part in AWS (re/Start), a workforce development program for unemployed and underemployed individuals, that covers fundamental AWS cloud skills as well as practical career tips
- ❖ Through real-world scenario-based exercises, labs, and coursework, learners are trained in multiple technologies, including Linux, Python, networking, security, and relational databases.
- ❖ The program also covers the cost for learners to take the AWS Cloud Practitioner Certification exam that
  - ✓ validates their cloud skills and knowledge and
  - ✓ connects the participants with job interview opportunities in cloud or IT with local employers.

## 2.28 INSURANCE SURETY BONDS

- ❖ National Highways Authority of India organized a brainstorming session with stakeholders for expediting adoption of Insurance Surety Bonds for NHA contracts.
- ❖ NHA has urged insurance companies and contractors to analyze use of Insurance Surety Bonds as an additional mode of submitting Bid Security and /or Performance Security Deposit.
- ❖ The Insurance Surety Bonds, when issued, would be cost effective and provide adequate security for NHA projects.

The global Surety insurance market size is approximately USD 29.5 Billion without India participation.

### ABOUT INSURANCE SURETY BONDS

- ❖ Insurance Surety Bonds are instruments where insurance companies act as 'Surety' and provides the financial guarantee that the contractor will fulfil its obligation as per the agreed terms.
- ❖ Surety bonds act as a viable option to bank guarantees and offer longer maturity terms than the traditional banking products.
- ❖ Ministry of Finance has granted equivalence status to e-BGs and Insurance Surety Bonds, aligning them with BGs for all government procurement processes.
- ❖ They are one of the most cost-effective ways to finance contract security options and could provide an estimated capital relief of Rs. 50,000 crore for the infrastructure sector.

## 2.29 NATIONAL FINANCIAL REPORTING AUTHORITY

- ❖ The National Financial Reporting Authority (NFRA) will soon issue a circular outlining the frequently observed deviations in the preparation of financial statements and statutory audits to give guidance to managements and auditors on practices they should strictly avoid.

### ABOUT NFRA

- ❖ It is the country's sole independent audit regulator.
- ❖ NFRA was constituted in 2018 by the Government of India under section 132 (1) of the Companies Act, 2013.
- ❖ HQ- New Delhi
- ❖ It replaced the National Advisory Committee on Accounting Standards ("NACAS").
- ❖ Objective- To continuously improve the quality of all corporate financial reporting in India.
- ❖ It comes under the purview of Ministry of Corporate Affairs.
- ❖ Composition includes a Chairperson, who is a Chartered Accountant and a person of eminence having expertise in accountancy, auditing, finance or law (appointed by the Central Government) and a maximum of 15 members.
- ❖ Functions and Duties
  - ✓ Recommend accounting and auditing policies and standards to be adopted by companies for approval by the Central Government;
  - ✓ Monitor and enforce compliance with accounting standards and auditing standards;

- ✓ Oversee the **quality of service of the professions associated** with ensuring compliance with such **standards and suggest measures** for improvement in the quality of service;
  - ✓ **Perform such other functions and duties** as may be **necessary or incidental** to the aforesaid **functions and duties**.
- ❖ Its **account is monitored by the Comptroller and Auditor-General of India**.

### 2.30 CHOKUWA RICE GETS GI TAG

- ❖ **Assam's Chokuwa rice** recently earned a **GI (Geographical Indication) tag**.
- ❖ **Magic rice** also known as **Chokuwa rice** is a **part of Assam culinary heritage**, this unique rice has been a **staple of the troops of the mighty Ahom dynasty**.
- ❖ This **unique and healthy rice** is **cultivated** around the **Brahmaputra area** and is **cultivated in several parts of Assam** like **Tinsukia, Dhemaji, Dibrugarh, Lakhimpur, Sivasagar, Jorhat, Golaghat, Nagaon, Morigaon**.
- ❖ Chokuwa rice is **basically a semi-glutinous winter rice**, known as **Sali rice**.
- ❖ This rice is **pre-boiled, dried, then stored and soaked right before consumption**.
- ❖ This rice variety is **widely consumed for its convenience of preparation and nutritional value**.

### 2.31 GOLDBLOCKS ECONOMY

- ❖ **India's 'goldilocks' scenario** rests on **corporate earnings growth trajectory**.

#### ABOUT GOLDBLOCKS ECONOMY

- ❖ An economy that is **neither running too hot nor too cold, but at an ideal pace**.
- ❖ A **steady-growing economy with moderate inflation and low unemployment rate** can be **optimal for long-term growth** and represents a **Goldilocks economy**.

## 3. GEOGRAPHY

### 3.1 IOD TURNS POSITIVE

- ❖ A **positive Indian Ocean Dipole pattern** has **started to emerge to the northwest of Australia**, increasing the **likelihood of abnormally warm and dry weather over large parts of Australia**.

#### ABOUT INDIAN OCEAN DIPOLE

- ❖ The Indian Ocean Dipole (IOD) refers to an **index that measures sea surface temperatures across eastern and western tropical Indian Ocean**.
- ❖ It is also called **Indian Nino**.
- ❖ A **positive IOD occurs when warmer than average water builds up in the western tropical Indian Ocean, near the Horn of Africa, and unusually cold water lies in the eastern Indian Ocean, near Indonesia**.
- ❖ By contrast, **negative IOD events occur when abnormally cool water lies near the Horn of Africa and unusually warm water sits near Indonesia**.
- ❖ The **positive IOD event is known to help the South-West monsoon and rainfall in African coast and vice versa**.

## 4. ART AND CULTURE

### 4.1 BHOJPATRA CALLIGRAPHY

- ❖ PM highlighted that the business of '**bhojpatra calligraphy**' by the **women of Mana village near Badrinath**, has taken off, helping them improve the economy of the region.
  - ✓ **Mana Village is regarded as the last village before the India-China border in Chamoli district, Uttarakhand.**
- ❖ Found at a **height of 3,000m or above**, **bhojpatra (Himalayan Birch)** is a tree whose **bark acts as paper on which text can be written.**
- ❖ Since ancient times, our **scriptures and books have been preserved on these bhojpatras.**
  - ✓ **Mahabharata was also written on the bhojpatra.**

### 4.2 AADI PERUKU FESTIVAL

- ❖ **Aadi Perukku** is a monsoon festival celebrated in the state of **Tamil Nadu**, that occurs on the **18<sup>th</sup> day of the Tamil month of Aadi.**
- ❖ It is also known as **Pathinettam Perukku.**
- ❖ This festival is celebrated **to show the gratitude to monsoon.**
- ❖ During Aadi Perukku, people gather near the banks of rivers, **especially the Kaveri River**, to perform rituals and offer prayers.

### 4.3 UNMESHA' AND 'UTKARSH' FESTIVAL

- ❖ The President of India recently inaugurated '**Unmesha**' – International Literature Festival and '**Utkarsh**' – Festival of Folk and Tribal Performing Arts, at **Bhopal, Madhya Pradesh.**

#### ABOUT UNMESHA

- ❖ It has been **organised by Sahitya Akademi.**
- ❖ It is **India's most inclusive** and **Asia's largest literature festival** in terms of the **number of languages represented.**
- ❖ More than **575 authors in 102 languages are expected to participate** in over 75 events in 'Unmesha 2023', and writers from 13 countries will participate in the festival.
- ❖ This will be the **second edition of 'Unmesha'** after the first one **held in Shimla in June 2022.**

#### ABOUT UTKARSH

- ❖ It has been **organised by Sangeet Natak Akademi.**
- ❖ The festival **stands as a tribute to India's rich heritage of folk and tribal expressions.**
- ❖ It **serves as a vital platform for traditional artists and performers to showcase their art forms and preserve the cultural legacy of diverse communities.**

### 4.4 ADICHANALLUR

- ❖ Union Finance Minister recently laid the foundation stone for the **establishment of a museum in Adichanallur**, to **showcase artefacts from ancient Tamil civilization, excavated from this archaeological site.**
- ❖ The museum is to **come up on five acres of land.**
- ❖ The upcoming on-site **ASI Museum will showcase all these artefacts 'in-situ'**, providing a world-class experience to visitors and researchers alike.

#### ABOUT ADICHANALLUR

- ❖ **Adichanallur was one of the five archaeological sites declared to be developed as 'Iconic Sites'** in the Union Budget 2020-21.

- ❖ It is an archaeological site located on the banks of river Thamirabarani in Thoothukudi district, Tamil Nadu.
- ❖ The excavation has unearthed burial urns, metal and bronze products used by ancient Tamils and a gold diadem.
- ❖ Various objects dating back to 467 BCE and food grains such as millets and paddy dated 665 BCE have been unearthed here.
- ❖ Adichanallur inhabitants had embalmed the dead with herbal medicines before interring them into an urn, alongside the jewels, clothes and food they used.
- ❖ The Adichanallur inhabitants had consumed paddy and Thinai over 3,400 years ago.
- ❖ At least 5,000 artefacts belonging to Adichanallur are in foreign countries.

#### 4.5 SHALIGRAMS

- ❖ For more than 2,000 years, Hinduism, Buddhism and the shamanic Himalayan religion of Bon have venerated.
- ❖ These are ancient fossils of ammonites, a type of mollusk, a class of extinct sea creatures related to modern squids.
- ❖ Originating from a single remote region in northern Nepal — the Kali Gandaki River Valley of Mustang — Shaligram stones are viewed primarily as manifestations of the Hindu god Vishnu.
- ❖ Because they are not human-made, but created by the landscape, they are believed to have an intrinsic consciousness of their own.
- ❖ As a result, Shaligrams are kept in homes and in temples, where they are treated as both living gods and active community members.
- ❖ However, climate change and gravel mining are altering the course of the river, which is making it harder to find Shaligrams.

#### 4.6 MANUSCRIPTS

- ❖ Sources in the Culture Ministry say the government is planning to introduce the National Manuscripts Bill, 2023, possibly in the Winter Session of Parliament.
- ❖ The primary aim is
  - ✓ to document and catalogue Indian heritage texts wherever they may be, in India or abroad,
  - ✓ maintain accurate and up-to-date information about them, and
  - ✓ detail the conditions under which they may be consulted.

#### ABOUT INDIAN MANUSCRIPTS

- ❖ Manuscripts are written on materials such as palm leaf, paper, cloth, and bark on themes ranging from history and religion to literature, astrology, and agricultural practice.
- ❖ As per National Mission for Manuscripts (NMM), India possesses an estimated 10 million manuscripts in 80 ancient scripts like Brahmi, Kushan, Gaudi, Lepcha, and Maithili.
- ❖ While 75% of the existing manuscripts are in Sanskrit, 25% are in regional languages, according to the NMM.
- ❖ India has a large collection of ancient manuscripts, a part of the country's cultural heritage, but over the years many have been lost or lie in museums abroad. For e.g.
  - ✓ The Bakhshali manuscript, an ancient Indian mathematical text written on birch bark, is considered to be the earliest recorded example of the use of zero.
  - ✓ The seminal text, dating back 3-4 century A.D., is in one of the Bodleian Libraries of the University of Oxford.

#### ABOUT NATIONAL MISSION FOR MANUSCRIPTS (NMM)

- ❖ NMM is an autonomous body under the Ministry of Culture.
- ❖ NMM is mandated with preserving the vast manuscript wealth of India.
- ❖ The NMM has digitised 3.3 lakh manuscripts, containing about 3.1 crore folios.

- ✓ Even though more than 1.18 lakh manuscripts have been uploaded, **only about 70,000 have been made available online for public access.**
- ❖ **The Sarasvati Mahal Library in Thanjavur, Bhandarkar Oriental Research Institute in Pune, Sampurnanand Sanskrit University in Varanasi, and the Oriental Research Institute in Jammu and Kashmir are some of the places which house the largest number of manuscripts in India.**

#### 4.7 SANT RAVIDAS JI

- ❖ **PM Modi recently laid the foundation stone of the memorial and temple of Sant Shiromani Sri Ravidas ji on 11 acres of land in Bartuma Sagar Madhya Pradesh, at a cost of about Rs 100 crore.**

#### ABOUT SANT RAVIDAS

- ❖ **He was a prominent mystic-saint of the North Indian Bhakti movement who was venerated as a guru in the modern regions of Uttar Pradesh, Bihar, Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Punjab, and Haryana.**
- ❖ **He taught removal of social divisions of caste and gender, and promoted unity in the pursuit of personal spiritual freedom.**
- ❖ **He is also the central figure within the Ravidassia religious movement.**
- ❖ **Begumpura City was envisioned by him as a city which is casteless, classless and does not have untouchability. There is no injustice, no worries, no terror and no torture.**
- ❖ **His padas, devotional songs, and other writings are mentioned in religious text of Sikhs, Guru Granth Sahib.**
- ❖ **The Panch Vani text of the Dadu Panthi tradition within Hinduism also includes numerous poems of Sant Ravidas.**
- ❖ **He was also considered spiritual Guru of Meera Bai.**

#### 4.8 PERSIAN NEW YEAR –NAVROZ

- ❖ **Navroz- translated to 'a new day' - is the time to welcome the new year for Parsi community.**
- ❖ **Also known as Nowruz or Persian New Year, the first day of Zoroastrian calendar Farvardin is observed all over the world on March 21 around the time of vernal equinox as the triumph of spring over darkness.**
- ❖ **The Parsi community in India celebrates Navroz nearly 200 days after the rest of the world as it follows the Shahenshahi calendar.**
- ❖ **Nowruz for India falls in July or August and Parsi New Year 2023 was observed on August 16<sup>th</sup>.**
- ❖ **Navroz is believed to be 3000 years old festival and emerged from one of world's oldest religions Zoroastrianism.**
- ❖ **Parsi New Year is also related to the life of Jamshid, a Persian king of mythology.**
- ❖ **On this day, Parsis in India clean their homes, decorate it, wear new clothes, pray to God for happiness and prosperity and invite friends over for a good time and hearty meal.**
- ❖ **Navroz in India is mainly celebrated in the states of Gujarat and Maharashtra.**

#### 4.9 THOPPIKALLU

- ❖ **A large number of megalithic hat stones were found from a single site during a recent archaeological salvage excavation conducted by the Kerala State Archaeology Department at Nagaparamba in Kuttippuram village, near Tirunavaya.**
  - ✓ **Tirunavaya is located on the banks of river Bharathapuzha.**
- ❖ **Hat stones, popularly called Thoppikkallu in Malayalam, are hemispherical laterite stones used as lid on burial urns during the megalithic period.**
- ❖ **Archaeologists say it could arguably be the largest number of hat stones in an unprotected site in the State.**
- ❖ **A large number of earthen urns and iron implements with unique features were discovered during the excavation, which could ostensibly throw light on the life and culture of people who lived in those parts more than 2,000 years ago.**

#### 4.10 MYLARA CULT

- ❖ The **recent discovery of two sculptures** at Basrur, near Kundapura, in **Udupi, Karnataka district** has proved that the **ancient Mylara cult existed in the coastal region.**

##### FIRST SCULPTURE

- ❖ A **mutilated but unique sculpture** was found in a well at Basrur.
- ❖ It **shows a royal hero sitting on the horse, holding a sword and a bowl in his right and left hands respectively.**
  - ✓ But there is **no Mylaladevi on the back of the horse.**
  - ✓ The horse shown in sitting posture is also a uniqueness of this sculpture which resembles **belonging to the 15th century A.D.**

##### SECOND SCULPTURE

- ❖ **Another tiny stone tablet containing Mylara and Mylaladevi sitting on an ornate horse and both of them holding swords in their right hands** was found in another water body, a tank.
- ❖ The sculpture **resembles belonging to 17th century.**

##### ABOUT BASRUR

- ❖ It was a **historical trading city of the Medieval period.**
- ❖ **Trading guilds like Uhayadesi, Nanadesi and others** actively participated in the trade.
- ❖ Basrur was a **great centre of various cults.**

##### ABOUT MYLARA CULT

- ❖ It is a **religious tradition centered around the worship of deity named Mailara**, who is believed to be a **manifestation of Lord Shiva.**
- ❖ Mylara cult **was very popular in the Deccan**, particularly **Karnataka, Maharashtra, Andhra Pradesh, and Tamil Nadu.**

#### 4.11 SEETHAKALI

- ❖ A **20-member group** is set to **perform Seethakali outside Kerala for the first time, in Hyderabad.**

##### ABOUT SEETHAKALI

- ❖ A **dance drama primarily performed by Dalit artists** belonging to the **Veda and Pulaya communities.**
- ❖ It **presents minuscule episodes of the Ramayana at every homestead.**
- ❖ This art form was **first performed some 150 years back.**
- ❖ In the **early times, Seethakali was performed as part of the harvest festival Onam.**
- ❖ The **props and instruments used** during performances are **all made of natural materials like bamboo and palm leaves.**
- ❖ The **costumes and the make-up are loud and eye-catching.**
- ❖ The characters of **Rama and Laxmana appear in green** since the colour is used to represent **gods and goddesses in Kathakali.**
- ❖ Currently, in Kerala, there is **only one registered Seethakali performing group – Perinad Seethakali Sangham.**
  - ✓ The **Perinad Seethakali Sangham** was formed by **T.N. Shajimon**, a **Kerala Folklore Akademi award winner** who was **in the forefront to revive the art form.**

#### 4.12 CELL-FREE DNA

- ❖ In the human body, **most of the DNA in a genome is neatly packed inside cells** with the help of specific proteins, protecting it from being degraded.

- ❖ However, in a variety of scenarios, some fragments of DNA are ‘released’ from their containers and are present outside the cell, in body fluids.
  - ✓ These small fragments of nucleic acids are widely known as cell-free DNA (cfDNA).
- ❖ cfDNA can be generated and released from a cell in a number of possible situations, including when a cell is dying and the nucleic acids become degraded.
- ❖ Scientists have been aware of such degraded fragments of nucleic acids in body fluids since 1948.
- ❖ But only in the last two decades or so, since genome sequencing technologies started to become more accessible, have they really figured out what to do with that knowledge.
- ❖ **Applications**
  - ✓ By far, one of the most widely used applications of cfDNA has been in screening fetuses for specific chromosomal abnormalities, an application known as non-invasive prenatal testing.
  - ✓ Another emerging application of cfDNA is in the early detection, diagnosis, and treatment of cancers.
  - ✓ It is useful in understanding why a body is rejecting a transplanted organ.
  - ✓ This could be used as a biomarker for neurological disorders like Alzheimer’s disease, neuronal tumours, stroke, traumatic brain injury.

#### 4.13 DIRECT METHANOL FUEL CELLS

- ❖ An alloy of Cobalt and Platinum when doped with Manganese has been found to be an effective catalyst for methanol oxidation reaction (MOR) that takes place at the anode of the direct methanol fuel cells (DMFCs).
- ❖ DMFC is an electrochemical energy conversion device that converts chemical energy of liquid methanol into electrical energy directly.
- ❖ They have high energy density, high efficiency and low operating temperature.
- ❖ DMFCs are also much safer to operate because they deal with liquid fuel (methanol).
- ❖ These are considered an attractive alternate power source for small vehicles such as forklifts and as battery chargers for mobile phones, digital cameras, laptops, and other small electronic gadgets.

#### 4.14 CRYPTOBIOSIS

- ❖ A microscopic worm survived in the Siberian permafrost for a record-breaking 46,000 years, scientists have discovered — tens of thousands of years longer than previously resurrected worms.
- ❖ The ancient roundworm, or nematode, belongs to the newly described species *Panagrolaimus kolymaensis*.
- ❖ Researchers discovered it nestled inside a fossilized squirrel burrow that was extracted from permafrost near the Kolyma River, in the northeastern Arctic, in 2002.

#### ABOUT CRYPTOBIOSIS

- ❖ Many animals like nematodes, and more famously, tardigrades, can survive extreme conditions by entering a dormant state called “cryptobiosis.”
- ❖ Cryptobiosis is the state of an organism when it shows no visible signs of life and when its metabolic activity becomes hardly measurable, or comes reversibly to a standstill.
- ❖ In this state organisms can survive complete absence of water and oxygen and withstand other extreme conditions.
- ❖ Since metabolism is a defining characteristic of life, cryptobiosis can be termed as a temporary death of an organism.

#### 4.15 WORLD COIN

- ❖ Open AI CEO Sam Altman along with two co-founders launched the Worldcoin crypto project to grant users a verified digital identity and access to a financial project.
  - ✓ OpenAI was the company behind the AI chatbot ChatGPT.



- ❖ It is intended to be the world's largest identity and financial public network, open to everyone regardless of their country, background or economic status.
- ❖ WorldCoin wants to offer users an account that only "real humans" can get, through what it calls a "World ID".
- ❖ For this, a customer has to sign up and do an in-person eye scan at particular locations, where their irises would be scanned through a ball-like object called an 'orb'.
  - ✓ Once the orb's iris scan verifies the person is a real human, it creates a World ID for them.

#### 4.16 LK-99 SUPERCONDUCTOR

- ❖ Researchers from South Korea have declared creation of a material known as LK-99 that can conduct superconductivity at room temperatures.
- ❖ The lead-based compound, which could conduct electricity without any resistance under normal conditions, could have long-term advantages.
- ❖ LK-99, the new superconductor, can be synthesised through a baking process that involves combining the minerals lanarkite  $Pb_2(SO_4)O$  and copper phosphide  $Cu_3P$ .
- ❖ The resulting material exhibits two essential characteristics of superconductivity even at normal air pressure and temperatures as high as 127 degrees Celsius: zero resistance to electric current and the ability to levitate in the presence of magnetic fields.

#### ABOUT SUPERCONDUCTORS

- ❖ Superconductors are a class of materials that exhibit near-zero electrical resistance and expel magnetic fields while allowing electric charges (usually electrons) to move freely through them.
- ❖ Superconductors are a critical component of modern-day transportation systems, medicine, energy transmission, and scientific research.
- ❖ In superconductors, a quantum phenomenon causes electrons to pair up allowing them to move through the structure of the material with remarkable ease and near-zero electrical resistance and no loss of energy.
  - ✓ However, that happens only at very low temperatures, typically near absolute zero or minus 273.15 degrees Celsius, and extremely high pressure.
  - ✓ Attaining these conditions requires costly and complex cooling systems like liquid helium for superconductivity to happen.
  - ✓ This limitation has restricted their widespread practical applications.
    - The new discovery is therefore exciting.

#### 4.17 FINGER MINUTIAE RECORD – FINGER IMAGE RECORD (FMR-FIR) MODALITY

- ❖ To prevent Aadhaar-enabled Payment System (AePS) frauds by the use of spoofed fingerprints during Aadhaar authentication, the UIDAI (Unique Identification Authority of India) has rolled out an in-house Artificial Intelligence/Machine Learning technology-based Finger Minutiae Record – Finger Image Record (FMR-FIR) modality which is able to check the liveness of a fingerprint to detect the use of cloned fingerprint during the authentication process.
- ❖ It uses a combination of both finger minutiae and finger image to check the liveness of the fingerprint captured.
  - ✓ In the field of biometrics, minutiae refer to certain small features of a fingerprint image.
- ❖ This ensures that only real fingerprints are used for verification, thus enhancing security and preventing fraud.

#### 4.18 HELA CELLS AND CELL CULTURE

- ❖ Cell culture is the process by which cells are grown in a petridish, in a lab in controlled conditions, outside of their natural environment.

- ❖ These cells are used in critical and path breaking scientific research to develop drugs, vaccines (polio), study the effects of radiation, how pathogens affect humans, gene mapping etc.
- ❖ Usually cells cultured in the lab from human cells could be kept alive for only a few days, subject to the phenomenon of cellular senescence, or the cessation of cell division.
- ❖ However, all that changed when it was discovered that **tumour cells** from **Henrietta Lacks**, a patient with **cervical cancer**, could grow indefinitely in culture.
  - ✓ An **immortalised cell line**, simply, is a **population of cells** from which would normally not proliferate indefinitely but, **due to mutations**, has achieved the ability to keep on dividing, never reaching the **point of senescence**.
- ❖ **Henrietta Lacks'** (HeLa) cells were the first human cells to be successfully cloned in 1953 by Theodore Puck and **Philip I. Marcus** at the **University of Colorado**.
- ❖ Since then, **HeLa cells** have 'continually been used for research'.

#### 4.19 LEGIONELLA BACTERIA

- ❖ Britain is removing a group of asylum seekers from the Bibby Stockholm barge because Legionella bacteria was found in the water supply.

##### ABOUT LEGIONELLA BACTERIA

- ❖ Legionella bacteria are found naturally in freshwater like rivers and lakes and can grow inside water tanks and plumbing systems.
- ❖ It can cause a serious type of pneumonia (lung infection) called Legionnaires' disease.
  - ✓ Symptoms include a cough, shortness of breath, a high temperature, flu-like symptoms and chest pain or discomfort.
  - ✓ Generally, it doesn't spread from person to person.
- ❖ The disease typically spreads via inhalation of contaminated aerosols from contaminated water.
- ❖ They grow and spread in human-made building water systems like:
  - ✓ Showerheads and sink faucets
  - ✓ Cooling towers
  - ✓ Hot tubs etc.
- ❖ Legionella bacteria can also cause Pontiac fever, a mild flu-like illness.
- ❖ Treatments exist, but there is no vaccine currently available for Legionnaires' disease.

#### 4.20 GRAPHENE AURORA PROGRAMME

- ❖ The "Graphene-Aurora Program" was launched by Ministry of Electronics & Information Technology (MeitY) Maker Village in Kochi, Kerala.
- ❖ This initiative, led by Digital University Kerala, aims to bridge the gap between graphene research and commercialization.
- ❖ It will be jointly funded by MeitY and Kerala government and industry partner.
- ❖ The establishment of the India Graphene Engineering and Innovation Centre (I-GEIC) will play a pivotal role in this effort.

##### ABOUT GRAPHENE

- ❖ Graphene is a single layer of carbon atoms arranged in a hexagonal lattice, forming a two-dimensional structure discovered in 2004.
- ❖ It has different properties- including exceptional strength and flexibility, electrical conductivity, and thermal conductivity.
- ❖ **Application:** can be used in touch screens, energy storage, light panels, solar cells, faster DNA sequencing, drug delivery and biosensors etc.

#### 4.21 PIBOT

- ❖ A team of engineers and researchers from the **Korea Advanced Institute of Science & Technology (KAIST)** is **currently developing a humanoid robot called "Pibot"** that can fly aircraft without needing to modify the cockpit.
- ❖ "Pibot," can **control its arms and fingers to dextrously operate the flight instruments**, even with severe vibration in an aircraft, **using high-precision control technology**.
- ❖ Its **external cameras allow Pibot to monitor the current state of the aircraft** and the **internal ones help it manage essential switches on the control panel**.
- ❖ Pibot is **able to memorise complex manuals presented in natural language**.
- ❖ Its memory is so large that it can **memorise all of the Jeppesen aeronautical navigation charts around the world**, which is **impossible for human pilots**, according to the KAIST team.
- ❖ It can **memorise aircraft operation and emergency manuals** and respond immediately.
- ❖ It can **also communicate with air traffic controllers and humans in the cockpit using voice synthesis**

#### 4.22 NATIONAL SUPERCOMPUTING MISSION

- ❖ The cabinet approved **expansion of the Digital India programme** with a **total outlay is Rs 14,903 crores**.
- ❖ Among a **number of other key initiatives**, it also **proposes nine more supercomputers to be added under the National Super Computer Mission**. This is in **addition to 18 supercomputers already deployed**.

Launched on July 1 2015, Digital India programme aims to enable digital delivery of services to citizens.

##### ABOUT NATIONAL SUPERCOMPUTING MISSION

- ❖ **National Supercomputing Mission (NSM)** has been set up to **provide the country with supercomputing infrastructure** to meet the **increasing computational demands of academia, researchers, MSMEs, and startups**.
- ❖ It was **launched in 2015** and is the **first of its kind attempt to boost the country's computing power**.
- ❖ The Mission is **steered jointly by the Department of Science and Technology (DST) and Ministry of Electronics and IT (MeitY)** and implemented by the **Centre for Development of Advanced Computing (C-DAC), Pune and the Indian Institute of Science (IISc), Bengaluru**.
  - ✓ India's **first supercomputer was PARAM 8000 (rolled out in 1991)**.
- ❖ These supercomputers **will also be networked on the National Supercomputing grid over the National Knowledge Network (NKN)**.
  - ✓ The **NKN is another programme of the government which connects academic institutions and R&D labs over a high-speed network**.

The Linpack Benchmark is a measure of a computer's floating-point rate of execution.

This rate is determined by running a computer program that solves a dense system of linear equations.

##### SOME MAJOR SUPERCOMPUTERS OF INDIA

- ❖ The **AI Supercomputer 'AIRAWAT'**, installed at C-DAC, Pune was **ranked 75<sup>th</sup> in the world**.
  - ✓ **Airawat PSAI**, stands as **India's largest and fastest AI supercomputing system**, with a remarkable speed of **13,170 teraflops**.
- ❖ **PARAM Siddhi-AI** supercomputer ranked at **131<sup>st</sup> position**.
- ❖ **Pratyush** supercomputer at **169<sup>th</sup> position**.
- ❖ **Mihir** Supercomputer at **316<sup>th</sup> position**.

#### 4.23 DEMON PARTICLE

- ❖ Scientists have discovered a **remarkable 'demon particle'** that holds the potential to usher in a new era of superconductors.
- ❖ It was **first predicted nearly 70 years ago by physicist David Pines**.
  - ✓ Pines had asserted that **combinations of electrons in a solid could form a composite particle that is massless, has no charge and does not interact with light**.

- ❖ It is a **transparent, massless, and neutral particle**, with the **capacity to manifest** regardless of temperature, making it **useful for superconductors**.
- ❖ It is not a particle in the traditional sense like a proton or electron. It is a **“composite” particle made up of a combination of electrons**, in a **solid (a metal strontium ruthenate Sr<sub>2</sub>RuO<sub>4</sub>)**.

#### USE IN SUPERCONDUCTORS

- ❖ A **superconductor**, a special type of metal or alloy, **possesses the remarkable ability to transmit electrical currents without any hindrance**.
  - ✓ However, **current superconductors require the temperature to fall below 100 degrees Fahrenheit-mark to maintain their properties**.
- ❖ The **demon particle exhibits its properties regardless of temperature**, potentially opening doors to **room-temperature superconductors**.

#### 4.24 SEAMLESSM4T

- ❖ **Meta**, the parent company of Facebook, has launched AI model named **SeamlessM4T**.
- ❖ SeamlessM4T is the **first all-in-one multimodal and multilingual AI translation model** that **allows people to communicate effortlessly through speech and text across different languages**.
- ❖ This single model **can perform speech-to-text, speech-to-speech, text-to-speech, and text-to-text translations** for up to **100 languages depending on the task**.
- ❖ It supports
  - ✓ **Speech recognition** for nearly **100 languages**
  - ✓ **Speech-to-text translation** for nearly **100 input and output languages**
  - ✓ **Speech-to-speech translation**, supporting nearly **100 input languages and 36 (including English) output languages**
  - ✓ **Text-to-text translation** for nearly **100 languages**
  - ✓ **Text-to-speech translation**, supporting nearly **100 input languages and 35 (including English) output languages**.
- ❖ Compared to approaches using separate models, **SeamlessM4T’s single system approach reduces errors and delays, increasing the efficiency and quality of the translation process**.

#### 4.25 TRINETRA

- ❖ C-DOT’s **TRINETRA** security system was launched recently.
- ❖ It is **aimed at providing end-to-end security solution to the organizations for detection, analysis and mitigation of cyber security threats**.
- ❖ TRINETRA is a **combination of multiple Security systems like Security information and Event Management (SIEM), Security Orchestration and Automated Response (SOAR), Data Loss Prevention (DLP), User Entity and Behaviour Analytics (UEBA), Multi-Source Threat Intelligence and others**.
- ❖ The solution **provides 24x7 near real-time actionable cyber-security status and detection and resolution of cyber-threats**.
- ❖ It **also performs security evaluation of organization’s IT assets by protecting endpoints including PC, Laptop, Servers and VMs by detection, analyses and mitigation of vulnerabilities and giving AI enabled automated responses to the cyber threats ensuring protection of sensitive data**.
- ❖ The solution is **capable of protecting critical digital infrastructure of various Government departments from ever-evolving cyber threat landscape**.

#### ABOUT C-DOT

- ❖ Centre for Development of Telematics (C-DOT) is the **premier Telecom R&D centre of the Department of Telecommunications, Ministry of Communications**.
- ❖ It was **established in 1984 and is a registered society under the Societies Registration Act, 1860**.
- ❖ It is a **registered ‘public funded research institution’** with the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology.

- ❖ HQ-New Delhi.
- ❖ Chairman-Minister of Communication and IT

## 4.26 SOMATIC GENETIC VARIANTS

- ❖ With the recent explosion in the amount of data available, scientists have shed new light on **somatic genetic variants**.

### HOW ARE THEY FORMED?

- ❖ The **human genome has 23 pairs of chromosomes, one inherited from each of our parents.**
- ❖ The **genome is the blueprint of our genetic makeup.**
- ❖ After **fertilisation, the combined single cell, with the 23 chromosomes, starts to divide, copying the genetic material over and over to nearly a trillion cells** – which make up the human body.
- ❖ As the **cells divide, the DNA is copied with extremely high accuracy thanks to proteins that proofread and correct errors in the DNA.**
- ❖ But despite this mechanism, there is still **an error rate of 0.64-0.78 mutations per billion base pairs per division.**
- ❖ The **number and effect of these errors vary significantly**, depending on the stage of development or the point in the life-cycle at which they occur.
- ❖ An **error that occurs in the DNA after birth but during development** is called a **somatic genetic mutation**.
- ❖ Their **occurrence is driven by the repeated 'copy-pasting' of the genome** – which means there will be **more somatic genetic mutations the older an individual is and the higher the turnover of the tissue.**

### IMPACTS

- ❖ Sometimes, a **somatic genetic mutation can render a cell fitter than others, which lead to the formation of tumours.** So these mutations are called **driver mutations**.
- ❖ Many **genetic conditions arise from somatic genetic variants.**
- ❖ Somatic genetic variants **are important for a number of normal physiological processes** like immune system

### USE OF THIS INFORMATION

- ❖ **Can help with early detection, diagnosis, and prognosis of cancer.**
- ❖ Detection of **development of genetic diseases.**
- ❖ **Precision medicine etc.**

**Turnover** means the **replacement of old cells with new ones.**

**Germline mutations** are inherited from parents and are present in every cell of an individual's body.

Civiltap Hlmachal

## 5. DEFENCE

### 5.1 RAILWAY PROTECTION FORCE

- ❖ A constable of the **Railway Protection Force (RPF)** allegedly shot and killed four people on board the Mumbai-bound 12956 Jaipur-Mumbai Superfast Express recently.

#### ABOUT RAILWAY PROTECTION FORCE

- ❖ The RPF is an **armed force** under the **operational and administrative control of the Union Ministry of Railways**, which is **tasked with protecting and securing railway property, the passenger areas, and the passengers themselves.**
- ❖ The RPF was **set up as a consequence of The Railway Protection Force Act, 1957, enacted by Parliament.**
- ❖ The **Act came into force after Parliament passed significant modifications to it through The Railway Protection Force (Amendment) Act, 1985 (Act No. 60 of 1985). Rules under the Act were notified in 1987.**
- ❖ The RPF is **led by a director-general.**

#### ABOUT GOVERNMENT RAILWAY POLICE (GRP)

- ❖ The **GRP is a part of the district police force**, reporting to the **state government.**
- ❖ It **works alongside the RPF**, and should, under ideal circumstances, complement and strengthen its operations.
- ❖ The Government Railway Police are **responsible generally for the prevention and detection of crime on railways.**
  - ✓ But their **remit does not extend to protecting Railway property.**
  - ✓ The **protection of goods sheds, goods wagons at stations and parcel offices is not duty of the Railway Police, but of the Railway Protection Force.**

### 5.2 YUDH ABHYAAS

- ❖ India and the US will hold '**Yudh Abhyas**' exercise which scheduled to take place in **Alaska** from September 25 to October 8.
- ❖ It is a **joint military exercise** conducted **annually** between the **armies of India and USA.**
- ❖ This marks the **19<sup>th</sup> edition** of the Indo-US joint training exercise Yudh Abhyas.
- ❖ Focus will be on operations related to **peacekeeping and peace enforcement.** The joint exercise will also focus on **Humanitarian Assistance and Disaster Relief (HADR) operations.**

### 5.3 SPIKE NON LINE OF SIGHT (NLOS) ANTI-TANK GUIDED MISSILES

- ❖ The **Indian Air Force (IAF)** has received the **Spike Non Line of Sight (NLOS) anti-tank guided missiles** from **Israel.**
- ❖ They **can hit targets upto 50 km from a helicopter and 32 km from the ground.**
- ❖ The NLOS missiles are now **going to be integrated with the Russian-origin fleet of Mi-17V5 helicopters.**
- ❖ It is a **fire-and-forget anti-tank and anti-personnel missile** with a **tandem-charge high-explosive warhead.**
- ❖ It is **developed by Rafael Advanced Defense Systems, a defence technology company based in Israel.**
- ❖ It has features like- **lock-on before launch and automatic self-guidance.**
- ❖ It is **available in man-portable, vehicle-launched, and helicopter-launched variants.**
- ❖ The **long and extended range versions of the Spike** also have the **capability of "Fire, Observe and Update" operating mode.**
- ❖ **Significance**
  - ✓ The air-launched NLOS ATGMs **can carry out strikes at its ground targets from standoff distances and can cause considerable damage to the enemy tank regiments and prevent their advances.**

### 5.4 NEERAKSHI

- ❖ An **autonomous underwater vehicle (AUV)**, **Neerakshi**, designed to detect mines and a first of its kind in **the country** was launched recently.
- ❖ It is a **collaboration of Kolkata-based warshipmaker Garden Reach Shipbuilders and Engineers (GRSE) Ltd and MSME entity Aerospace Engineering Private Ltd (AEPL)**.
- ❖ It can be **used for a variety of functions ranging from mine detection to mine disposal to underwater survey**
- ❖ Specifications
  - ✓ The unmanned **cylindrical** vehicle is about **2.1-metre long, a foot in diameter and weighs around 45 kg**.
  - ✓ It has an **endurance of four hours and can go up to 300 metres deep**.

## 5.5 SWATHI MOUNTAINS

- ❖ The **Indian Army** inducted the **lighter and more compact version of the indigenously developed Weapon Locating Radar (WLR-M)** called "**Swathi Mountains**"
- ❖ The Swathi Mountains WLR is an advanced electronically scanned phased array radar, specifically designed for operations in mountainous and high-altitude areas and
- ❖ It has been developed by **Bharat Electronics Limited (BEL) in Bengaluru**.

### ABOUT WLR

- ❖ The **Weapon Locating Radar (WLR)** stands as a **critical asset for modern militaries, employing advanced signal processing techniques to autonomously detect and track hostile artillery, mortars, and rocket launchers**.
- ❖ It even **tracks friendly fire trajectories, enabling precise calculations for more accurate artillery strikes**.
- ❖ Major feature of a WLR is **high mobility and swift deployment capabilities**, allowing it to **adapt to changing operational requirements efficiently**.
- ❖ Ensuring effectiveness in hostile environments, the **radar is designed with survivability and resistance to electronic warfare measures in mind**.
- ❖ The WLR also acts as a **potent friendly force multiplier by providing critical information on enemy weapon systems**.

### SWATHI RADAR

- ❖ The **Swathi radar comes in two versions:**
  - ✓ the Swathi Plains (WLR) and the Swathi Mountains (WLR-M).
- ❖ The **Swathi Plains** version is **primarily designed to locate hostile guns, mortars, and rockets**, and it can also **track the fall of shot from friendly weapons for corrective measures on flat terrains like Plains**.
- ❖ On the other hand, the **Swathi Mountains** version, is a **more compact and mobile version**.
  - ✓ It is **specifically designed for operations in mountainous and high-altitude terrains**.
  - ✓ The WLR-M, or Swathi Mountains, is **capable of detecting mortar shells and rockets and tracking projectiles**.
  - ✓ It **classifies projectile and non-projectile targets, rejecting unwanted signals like birds, clutter, and aircraft**.
  - ✓ Moreover, it **offers trajectory estimation and launch/impact point extrapolation, automatically correcting for height to enhance accuracy**.
  - ✓ It is **equipped to store and display trajectory data and maintain communication with higher echelons for better coordination**.

## 5.6 MAYA OPERATING SYSTEM

- ❖ In the face of **increasing cyber and malware attacks on defence as well as critical infrastructure across the country**, the **Defence Ministry** has decided to **replace the Microsoft Operating System (OS) in all computers connected to the Internet with a new OS, Maya**.
- ❖ Maya OS is **based on open-source platform Ubuntu, which is developed locally**.

- ❖ Maya has the **interface and all functionality like Windows** and users will not feel much difference as they **transition to it**.
- ❖ In addition, an **'end point detection and protection system', Chakravyuh**, is also being installed in these **systems**.
- ❖ Currently, **Maya is being installed only in Defence Ministry systems and not on computers connected to the networks of the three Services**.
- ❖ Maya was **developed by government development agencies within six months**.
- ❖ Maya **would prevent malware attacks and other cyberattacks which had seen a steep increase**.

## 5.7 M1 ABRAM TANK

- ❖ The **United States** has officially **given the nod for the delivery** of M1 Abrams tanks to **Ukraine**.
  - ✓ The **first batch** of the combat assault weapons is **expected to arrive in the war-torn nation this fall**.
- ❖ M1 Abrams Tank is the **US main battle tank**.
- ❖ The **first M1 tank was manufactured in 1978** and was delivered to the US Army in 1980.
- ❖ It was **named in honor to General Abrams, commander of US forces during the Vietnam War**.
- ❖ The export version of this tank is used by the other nations as well. For e.g. **Australia, Egypt, Iraq, Kuwait, Poland, and Saudi Arabia**.

## 5.8 EXERCISE ZAYED TALWAR

- ❖ It is a **naval exercise** between **India and UAE** to be conducted at **Port Rashid (man-made commercial port) in Dubai this year**.
- ❖ **INS Visakhapatnam, and INS Trikand** are participating in the exercise.

## 5.9 EXERCISE MALABAR

- ❖ It is **Joint naval exercise** between 4 Indo-Pacific partner nations: **Australia, India, Japan and the United States**.
- ❖ It will be conducted off the coast of **Sydney, Australia**.

## 5.10 PRABAL REVOLVER

- ❖ India's **first ever long-range revolver, "Prabal,"** is poised for launch on August 18.
- ❖ The revolver is **manufactured by** the state-owned enterprise **Advanced Weapons and Equipment India (AWEIL), based in Kanpur**.
  - ✓ AWEIL comprises of eight former factories of the Ordnance Factory Board (OFB), and the company's primary focus lies in the **manufacturing of small arms and artillery** for the **Indian armed forces, international militaries, and domestic civilian usage**.
- ❖ Distinguished by its **.32 bore**, the **Prabal revolver boasts an impressive firing range of up to 50 meters**, more than twice the reach of other revolvers in India.
- ❖ A noteworthy feature of Prabal is **its side swing cylinder, marking a significant advancement in revolver design**.

## 5.11 PROJECT 17A

- ❖ President Droupadi Murmu launched the sixth vessel of the **Project 17 Alpha Frigates, Vindhyagiri'**, a **stealth guided missile frigate** of the Indian Navy.
  - ✓ Previous five were **INS Nilgiri, Udaygiri, Himgiri, Taragiri, and Dunagiri**.

### PROJECT 17A

- ❖ These warships are **follow-ons of the Project 17 Class Frigates**.
- ❖ The Project 17A ships have been **designed in-house by the Indian Navy's Warship Design Bureau**, a pioneer organisation for all warship design activities.



- ❖ Ships under Project 17A are constructed by two companies - **Mazagon Dock Shipbuilders (MDL)** and **Garden Reach Shipbuilders & Engineers (GRSE)**.
  - ✓ The new **Vindhyagiri** was unveiled at the **Garden Reach Shipbuilders and Engineers Limited in Kolkata**.
- ❖ These guided-missile frigates have been constructed with a **specific stealth design**, which has **radar-absorbent coatings** and is **low-observable** which can make its approach undetectable for the enemies. The new technology **also reduces the infrared signals of the ship**.
- ❖ A substantial **75% of the orders for equipment and systems of Project 17A ships** are from **indigenous firms, including Micro, Small, and Medium Enterprises (MSMEs)**.

## 5.12 ASTRA MISSILE

- ❖ The **Light Combat Aircraft (LCA) Tejas Limited Series Production-7 (LSP-7)** successfully **test fired the ASTRA missile**.
- ❖ It is an **indigenous Beyond Visual Range (BVR) air-to-air missile** aimed to **engage and destroy highly manoeuvring supersonic aerial targets**.
- ❖ It is **designed and developed by Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI) and other laboratories of the DRDO**.
- ❖ **Astra is approx. 3.8 meters in length** and has a **diameter of 178mm** with **launch weight of around 160 kg**.
- ❖ Other features
  - ✓ **Range** : **80 -110 km**
  - ✓ **Altitude** : **up to 20 km**
  - ✓ **Max Speed** : **Mach 4.5**
  - ✓ **Propulsion** : **Solid Rocket Motor**

## 5.13 COMMITTEE TO OVERHAUL DRDO FORMED

- ❖ In a bid to **overhaul the Defence Research and Development Organization (DRDO)**, the **Ministry of Defence** has formed a **nine-member committee of experts**.
- ❖ A report is **expected from the committee within next three months**.
- ❖ **The committee will be chaired by Prof K Vijay Raghavan**, the former **Principal Scientific Advisor to the Government of India**.

## 5.14 SODIUM ION BATTERY

- ❖ **AR4 Tech, a start-up in Coimbatore**, has partnered **Sodion Energy of Singapore** to make **sodium ion battery packs for domestic and export markets**.

### ABOUT SODIUM ION BATTERY

- ❖ **Sodium-ion batteries (Na-ion batteries or NIBs)** are an **emerging battery technology that utilizes sodium ions (Na<sup>+</sup>) as charge carriers**.
- ❖ Sodium-ion batteries offer an **alternative energy storage solution to Lithium Ion Batteries (LIB) with potential benefits such as cost-effectiveness and abundance of sodium resources**.
- ❖ **Working (similar to LIBs)-**
  - ✓ **During charging, sodium ions are moved from the positive electrode (cathode) to the negative electrode (anode)**, and during discharge, they move back to the cathode, generating electrical energy in the process.

### ADVANTAGES

- ❖ NIBs have a number of advantages over other types of batteries, including their **safety, affordability, and long lifespan**.
- ❖ They are a **good fit for applications where fast charging and high discharge rates are required**, such as **electric vehicles** which are required to climb slopes or carry heavy loads.

- ❖ NIBs also shine in applications such as **Backup Power Supplies, Solar Energy Storage and even Starter Batteries for gasoline vehicles.**
- ❖ NIBs are close to **Lead Acid Battery LABs in price but perform similarly to LIBs.**

### 5.15 COIL GUNS

- ❖ The **Chinese navy** has said that it is using the world's most powerful coil gun.

#### ABOUT COIL GUN

- ❖ It is a **type of electromagnetically powered weapon** capable of **launching projectiles with very high speed and accuracy.**
- ❖ These are also known as **magnetic accelerators or Gauss guns.**
- ❖ **Working-**
  - ✓ Coil guns feature a **series of coils arranged along the barrel of the gun, each one constituting a stage.**
  - ✓ Each **coil is energised one after another to create a magnetic field that can levitate and propel a projectile forward.**
  - ✓ The **projectile typically stays suspended in the centre of the coil during launch.**
- ❖ **Repeated firings do not cause wear on components.**
- ❖ **Advantages - higher launch speeds, lower launch costs, and shorter preparation time, compared to traditional artillery.**
- ❖ **Applications in areas such as weapon systems, near-earth satellites and high-speed missile launches.**

### 5.16 MODEFNCE TO PROCURE FLEET SUPPORT SHIPS

- ❖ The **Ministry of Defence** signed a groundbreaking contract with **Hindustan Shipyard Limited (HSL)**, a state-owned company based in **Visakhapatnam**, for the acquisition of **five Fleet Support Ships (FSS).**
- ❖ The **overall cost of this venture is estimated to be approximately ₹19,000 crore.**
- ❖ These **vessels, weighing an impressive 44,000 tonnes each, are equipped to provide essential resources such as fuel, water, ammunition, and supplies to naval fleets on extended missions.**
- ❖ The **Fleet Support Ships (FSS) will serve a crucial role in maritime operations by facilitating the replenishment of ships at sea.**
- ❖ They can be **deployed for evacuation of people and Human Assistance and Disaster Relief (HADR) operations.**

### 5.17 ORON SPY PLANE

- ❖ Israel's Defense Ministry and the Israel Aerospace Industries (IAI) announced recently that they **completed two years of outfitting an aircraft with advanced intelligence gathering technology, and that test flights have already begun.**
- ❖ The **spy plane, known as the ORON, is a Gulfstream G550 Aerospace equipped with state-of-the-art sensors, cameras, artificial intelligence, and advanced Command, Control, Communications, Computers, and Intelligence (C4I) systems.**
- ❖ It **operates at an altitude of up to 40,000-50,000 feet with a flight range of 1,000 km.**
- ❖ **ORON's real-time monitoring capabilities will provide larger amounts of intelligence than unmanned aerial vehicles.**
- ❖ The **ORON will be operated by the Israeli Air Force's "Nachshon" 122nd squadron out of the Nevatim Air Base near Beer Sheva.**
- ❖ The **system's ability to accurately track multiple targets over vast distances and challenging conditions will enable a prompt and precise response to threats.**

### 5.18 SMISHING

- ❖ **Indian government** has warned against a new scam called ‘Smishing’, which is a portmanteau of SMS and Phishing.
- ❖ It uses **misleading texts** to trick you into revealing confidential information.
- ❖ In **phishing** attacks, a fraudulent e-mail is sent.
  - ✓ **Smishing** uses text messages instead of email.
- ❖ Smishing scams **often masquerade** as legitimate communication from trusted sources, such as **banks, government agencies, or well-known brands**.
- ❖ These **messages often create a sense of urgency**, compelling recipients to take immediate action.
- ❖ They **might request personal information** like **credit card numbers, social security details, or login credentials**, under the guise of security verification or account updates.

## 5.19 EXERCISE BRIGHT STAR-23

- ❖ An **Indian Air Force (IAF)** contingent departed for **participating in Exercise BRIGHT STAR-23**.
- ❖ It is a **biennial multilateral tri-service exercise**.
- ❖ It is **scheduled to be held at Cairo (West) Air Base, Egypt**
- ❖ The exercise will also see **participation of contingents** from the **United States of America, Saudi Arabia, Greece and Qatar**.
- ❖ **Objective -to practice planning and execution of joint operations.**

## 6.SPAC

### 6.1 VOYAGER 2

- ❖ The **National Aeronautics and Space Administration's Voyager 2 spacecraft**, which is venturing through space between stars, **faces communication problems due to antenna misalignment**.
  - As a result, it **cannot receive commands or transmit data back to Earth**.
- ❖ However, the US space agency is optimistic that the issue will be resolved during the **next orientation reset scheduled for October**.

#### ABOUT VOYAGER MISSION

- ❖ Voyager 2 is **one of the farthest human-made objects in space, behind only its predecessor, Voyager 1**.
- ❖ **Launched on August 20, 1977, Voyager 2 is located more than 19.9 billion kilometres from Earth, in interstellar space – the region between our Sun's heliosphere and the astrospheres of other stars.**
- ❖ NASA's Voyager 2 is the **second spacecraft to explore space between stars**.
- ❖ It **accomplished this on December 10, 2018, joining its twin, Voyager 1, as the only human-made object to explore the space between stars**.
- ❖ Voyager 2 impressive accomplishments include-
  - ✓ It is the **only spacecraft to study all four of the solar system's giant planets up close**.
  - ✓ At **Jupiter, Voyager 2 discovered a 14<sup>th</sup> moon**.
  - ✓ It was the **first human-made object to fly past Uranus, where it discovered 10 new moons and two new rings**.
  - ✓ Voyager 2 was also the **first human-made object to fly by Neptune, uncovering five moons, four rings, and a “Great Dark Spot.”**
- ❖ **Voyager 1, located nearly 24 billion kilometres away from Earth, continues to operate without any issues.**
- ❖ NASA's **Voyager 1 was launched after Voyager 2, but because of a faster route, it exited the asteroid belt earlier than its twin, having overtaken Voyager 2 on Dec. 15, 1977.**

### 6.2 ZARTH APP

- ❖ A team of **researchers** from Center for Data Driven Discovery, **California Institute of Technology**, has developed an **app that allows anyone with a smartphone to 'hunt' for transients**.
  - ✓ Students from the **Indian Institutes of Technology at Mandi and Gandhinagar** were also involved in developing ZARTH.
- ❖ The new app, called **ZARTH**, short for '**ZTF Augmented Reality Transient Hunter**', is built along the lines of the **augmented reality mobile game Pokemon Go**.
- ❖ It allows the user to **do serious science while playing a game**.
- ❖ The **app uses the open-source Sky Map** and **adds data daily from the Zwicky Transient Facility (ZTF)'s robotic telescope** at the **Palomar Observatory in California**.
- ❖ The ZTF scans the **entire northern sky every two days** and uses the data to **make large area sky maps** that have important **applications in tracking near-earth asteroids and studying supernovae**.
- ❖ Tracking down transients on ZARTH is easy: the **app is loaded daily with 200 transients detected in real-time by the ZTF, an incredible 100,000 every night**.
  - ✓ These include **supernovae, flaring stars** (variable stars that flare up for a short while), **white dwarf binaries** (burnt remains of dead stars that orbit one another and often merge and explode in supernovae), **active galactic nuclei**, and **several other types**.
- ❖ **ZARTH ranks transients by their rarity and importance, and players can compete with each other to score points and earn daily credits.**

Transients refer to astronomical phenomena with durations of fractions of a second to weeks or years.

Typically they are extreme, short-lived events associated with the total or partial destruction of an astrophysical object.

### 6.3 LUNAR CODEX

- ❖ A collection of various art made by humans might become immortal with the **Lunar Codex programme**.
- ❖ The programme is **spearheaded by Samuel Peralta, a semi-retired physicist and art collector from Canada**.
- ❖ The collection of **varied digitised art will be sent to the moon as a lasting record of human creativity**.
- ❖ Lunar Codex is **stored on memory cards or laser etched on NanoFiche, a 21st-century update on film-based microfiche**.
  - ✓ These will ensure that the **art forms reach the lunar surface safely**.
- ❖ The collection of art is **gathered from 30,000 artists, writers, filmmakers and musicians from 157 countries**.
- ❖ The **art forms include images, magazines, books, podcasts, movies and music, which are divided into four capsules**.
  - ✓ The **first such capsule** is known as the **Orion collection, already flown around the moon when it was launched on the Orion spacecraft as part of NASA's Artemis 1 mission last year**.
  - ✓ Other **three are – The Nova Collection, The Peregrine Collection, The Polaris Collection**.
  - ✓ In future, a series of lunar landers will take the **Lunar Codex capsules to various destinations in craters at the moon's South Pole and a lunar plain called Sinus Viscositas**.
- ❖ The **artworks, however, will not be the first to be stranded** on the moon.
  - ✓ In 1969, when **Apollo 12 mission** was launched for the moon, the **lunar module of the spacecraft carried a small ceramic tile bearing line drawing** from Andy Warhol, the painter Robert Rauschenberg and the sculptors Forrest Myers and John Chamberlain.

### 6.4 EINSTEIN CROSS

- ❖ Astronomers have **discovered a stunning, rare example of an "Einstein cross" splitting and magnifying light from the far depths of the universe**.
  - ✓ The pattern was **first predicted by Albert Einstein in 1915**.
- ❖ It occurs **when the curvature of space-time around a massive foreground object (like a galaxy) splits the light behind it into four, like the points of a cross**.

- ❖ In this case the **background light** likely comes from a **quasar (more than 11.179 billion light-years away)**, a **young galaxy whose supermassive black hole** at its core gobbles up enormous amounts of matter and **blasts out enough radiation to shine more than a trillion times more brightly than the brightest stars.**
  - ✓ **Gravitational Lensing** occurs when a massive celestial body, such as a galaxy cluster, causes a sufficient curvature of space-time for the path of light around it to be visibly bent, as if by a lens.
  - ✓ An important consequence of this lensing distortion is **magnification**, allowing us to observe objects that would otherwise be too far away and too faint to be seen.
- ❖ **Earth, the lensing galaxy (about 5.998 billion light-years away) and the quasar have aligned to perfectly duplicate the quasar's light, arranging them along a so-called Einstein ring.**
  - ✓ This gravitational lens was first discovered in 2021.

## 6.5 DRACO PROGRAM

- ❖ **NASA and US Defense Advanced Research Projects Agency (DARPA) are working on Demonstration Rocket for Agile Cislunar Operations (DRACO) program.**
- ❖ DRACO program aims to create a **Nuclear Powered Space propulsion system .**
- ❖ NASA aims to **launch a nuclear-powered spacecraft, known as DRACO, into Earth's orbit either by late 2025 or early 2026.**
- ❖ The **spacecraft, under construction by Lockheed Martin, will serve as a testbed for this groundbreaking technology.**
- ❖ DRACO is **expected to provide a treasure trove of critical data** that will usher in a new age of space exploration.
- ❖ **Working**
  - ✓ A **nuclear thermal rocket (NTR)**, the **underpinning technology of the DRACO**, boasts a **thrust-to-weight ratio approximately 10,000 times greater than electric propulsion and two-to-five times more efficiency than in-space chemical propulsion.**
  - ✓ The technology utilizes heat from a nuclear powered fission reactor to heat a **hydrogen propellant**, which then expands through a nozzle to provide thrust, propelling the spacecraft forward.
- ❖ **Advantages**
  - ✓ **Nuclear propulsion is a key capability on NASA's roadmap to send astronauts to Mars.**
  - ✓ A **nuclear-powered rocket would enable faster trips to the Red Planet, making missions less complex and safer for crew.**
  - ✓ This type of engine **requires significantly less propellant than chemical rockets, so missions would be able to carry additional scientific equipment.**

## 6.6 PERSEID METEOR SHOWER

- ❖ The **Perseid Meteor Shower, one of the most spectacular celestial events of the year, is set to peak on the nights of August 11 and 12.**
- ❖ This meteor shower, which **has been active since July 17, will continue until September 1**, but the best views are expected during its peak period.
- ❖ Originating from **the Comet 109 P/Swift-Tuttle**, the **Perseid Meteor Shower is named after the constellation Perseus, from where it appears to radiate.**
  - ✓ The **Swift-Tuttle comet has an orbital period of 133 years.**
- ❖ This year's Perseid Meteor Shower promises to be particularly breathtaking, **with an estimated 50 to 100 meteors visible per hour.**
- ❖ The **Perseid meteors streak across the sky at 37 miles per second, or about 133,000 miles per hour.**
- ❖ The **friction between these fast-moving objects and the atoms and molecules in Earth's atmosphere causes them to heat up and burn, appearing as breathtaking streaks of light to observers on the ground.**

## 6.7 LUNA-25

- ❖ Russia is to launch its **first lunar landing spacecraft** Luna-25 in nearly half a century.
- ❖ The Luna-25 spacecraft, **weighing 1.8 tons and carrying 31 kg of scientific equipment**, will **spend five to seven days in lunar orbit before descending to one of three possible landing sites near the south pole.**
- ❖ Its **primary task** will be to **collect rock samples from a depth of up to 15 cm to test for the presence of frozen water.**
- ❖ The Luna-25 mission will take off from the **Vostochny cosmodrome.**

## 6.8 NATIONAL SPACE INNOVATION CHALLENGE 2023

- ❖ **Atal Innovation Mission, NITI Aayog**, in collaboration with **Indian Space Research Organisation** and **Navars Edutech** has launched the **National Space Innovation Challenge, NSIC 2023**, for students of **Classes 5 to 12.**
- ❖ The challenge is **open for school students across India.**
- ❖ The contest **aims to foster innovation and curiosity among school students** and provide them with a **platform to solve modern-day space technology problems.**

## 6.9 STEREO SPACECRAFT

- ❖ NASA's **Solar Terrestrial Relations Observatory (STEREO-A) spacecraft** made its **first Earth flyby, nearly 17 years after its launch.**
- ❖ Launched from **Cape Canaveral on October 25, 2006**, the **twin STEREO spacecraft, STEREO-A ("Ahead") and STEREO-B ("Behind"),** embarked on their mission to **chart Earth-like orbits around the Sun.**
- ❖ Their **primary objective** was to **provide the first stereoscopic, or multiple-perspective, view of our closest star.**
- ❖ On February 6, 2011, the mission achieved a **significant milestone** when the **two spacecraft reached a 180-degree separation in their orbits,** allowing **humanity to see the Sun as a complete sphere for the first time.**

## 6.10 AGNIBAAN SORTED

- ❖ Chennai-based start-up **AgniKul Cosmos** has commenced the **process of integrating its cutting-edge Agnibaan SubOrbital Technological Demonstrator (SOrTeD)** at its **private launchpad** located at the iconic **Satish Dhawan Space Centre (SDSC) SHAR** in **Sriharikota** off the coast of **Andhra Pradesh.**
- ❖ A successful launch would make **AgniKul the second Indian spacetechnology start-up to send its launch vehicle into space after Skyroot Aerospace (with Vikram-S rocket) .**
- ❖ Agnibaan SOrTeD is a **single-stage launch vehicle powered by AgniKul's patented Agnilet engine, which is an entirely 3D-printed, single-piece, 6 kilonewton (kN) semi-cryogenic engine.**
  - ✓ It uses a **mixture of liquid kerosene at room temperature and supercold liquid oxygen as propellant.**
  - ✓ **The Agnilet engine is the world's sole single-piece 3D-printed engine.**
- ❖ However, **unlike traditional sounding rockets that launch from guide rails, Agnibaan SOrTeD will lift-off vertically and follow a predetermined trajectory to perform a precisely orchestrated set of manoeuvres during flight.**
- ❖ The **flight events** have been **configured to validate key technologies integral to the success of the company's upcoming orbital flights.**
- ❖ It is **equipped to haul payloads of up to 100 kilos to a 700 km distance in the LEO.**
- ❖ The vehicle is **18 m in height, 1.3 m in diameter, and has a liftoff mass of 14,000 kg.**
- ❖ The **payload envelope measures 2m x 1.5m and can carry one or more satellites.**

### ABOUT AGNIKUL COSMOS

- ❖ Established in **2017** by aerospace engineers **Srinath Ravichandran and Moin SPM**, along with **IIT-Madras faculty member Prof. Sathyanarayan R Chakravarthy**, Agnikul emerged as the **first Indian company to sign an agreement with ISRO in December 2020.**
- ❖ This landmark partnership allowed the start-up access to **ISRO's knowledge base and resources.**

## 6.11 TAPAS UAV

- ❖ A Tapas unmanned aerial vehicle (UAV) of the Defence Research and Development Organisation (DRDO) crashed in agriculture fields near a village in Karnataka's Chitradurga.

### ABOUT TAPAS

- ❖ **Tactical Airborne Platform for Aerial Surveillance-Beyond Horizon-201** or **Tapas BH-201** is a long-endurance unmanned aerial vehicle.
  - ✓ It was previously referred to as **Rustom-II**.
- ❖ The drone has a **20.6-meter wingspan** and a **maximum speed of 225 kmph**.
- ❖ It can cover a range of **250+ km** using the **C Band frequency data link** developed by **Defence Electronics Application Laboratory (DEAL)** at DRDO, and **1000+ km** via **SATCOM** using the **K<sub>u</sub> Band frequency** and **GAGAN system**.
- ❖ TAPAS BH 201 is **being developed in India by Aeronautical Development Establishment**.
- ❖ The **medium-altitude, long-endurance drone** has an **impressive flight endurance of several hours** and **successfully completed its maiden flight in November 2016**.
- ❖ The TAPAS BH 201 drone has the **capability to fly autonomously or via remote control**, allowing for **pre-programmed flight plans** and **operational use in daylight or darkness**.
- ❖ It is **easily transportable and deployable to remote locations**
- ❖ With a range of **over 18 hours** and altitude capabilities of **up to 28,000 feet**, the **TAPAS BH 201** has already **completed more than 180 flights** and **will be live-streaming aerial and static displays at Aero India 2023**.

## 6.12 ACOUSTIC SIDE CHANNEL ATTACKS

### SIDE CHANNEL ATTACKS (SCAS)

- ❖ SCAs are a **method of hacking a cryptographic algorithm** based on the **analysis of auxiliary systems used in the encryption method**.
- ❖ These can be performed using a **collection of signals emitted by devices, including electromagnetic waves, power consumption, mobile sensors, sound from keyboards and printers** to target devices.
- ❖ **Once collected, these signals are used to interpret signals that can be then used to compromise the security of a device**.

### ABOUT ACOUSTIC SIDE CHANNEL ATTACKS

- ❖ In an ASCA, the sound of **clicks generated by a keyboard** is used to **analyse keystrokes and interpret what is being typed to leak sensitive information**.
- ❖ These attacks are particularly dangerous as the acoustic sounds from a keyboard are readily available and because their **misuse is underestimated by users**.
- ❖ While most users **hide their screens when typing sensitive information**, no **precautionary steps are taken to hide the sound of the keystrokes**.
- ❖ Additionally, the **use of laptops has increased the scope of ASCAs** as **laptop models have the same keyboard making it easier for AI-enabled deep learning models to pick up and interpret the acoustics**.
- ❖ They have an **accuracy beyond 90%**.

## 6.13 IRREGULAR GALAXY

- ❖ The **Hubble Space Telescope** has snapped a **stunning image of a galaxy that defies classification**.
- ❖ ESO 300-16 is an **irregular galaxy, a type of galaxy that lacks a clear shape and structure**.
- ❖ It **located at a distance of 28.7 million lightyears**.
- ❖ The **galaxy is located in the constellation of Eridanus, contains a bubble of blue gas at its core and has a backdrop of many distant galaxies**.

One parsec is equal to **3.26 lightyears**, or **30.9 trillion kilometres**.

A megaparsec is one million parsecs.

- ❖ ESO 300-16 was captured as part of an imaging campaign known as **Every Known Nearby Galaxy**, which aims to create a complete inventory of Hubble images of all galaxies within 10 megaparsecs of the Earth, or 32.6 million lightyears.
  - ✓ Almost 75% of such galaxies have been imaged already.

**6.14 CHANDRAYAAN 3 SOFT LANDS ON MOON**

- ❖ India has become the 4<sup>th</sup> country to land on the Moon (after United States, Russia, and China) and the first to land on its south-pole with successful landing of Vikram lander which was onboard the Chandrayaan 3.
  - Chandrayaan-3 is expected to operate for at least one lunar day (14 Earth days) on the lunar surface.
- ❖ The Pragyan rover onboard the lander will move around the landing site within a radius of 500 meters, conducting in-situ experiments and sending data and images to the lander.
- ❖ The Vikram lander will relay the data and images to the orbiter, which will then transmit them to Earth.

**PAYLOADS-**



**6.15 LUNAR POLAR EXPLORATION MISSION (LUPEX)**

- ❖ In a joint effort, the space agencies of **India-ISRO and Japan-JAXA** are embarking on the **Lunar Polar Exploration Mission (LUPEX)**.
- ❖ This mission, slated for a 2025 launch, aims to assess the feasibility of establishing a lunar base, investigate the presence of water ice, and advance surface exploration technologies.
- ❖ **JAXA** will develop the rover and **ISRO**, the lander.
  - ✓ The rover will carry instruments of **ISRO and JAXA** along with those of the NASA and the European Space Agency (ESA).

**6.16 CHANDRAYAAN RELATED NEWS**

- ❖ **August 23<sup>rd</sup>** has been declared as **National Space Day** to commemorate India's achievement of Chandrayaan-3 soft landing on moon's south pole.
- ❖ Also the landing site of Chandrayaan-3's moon lander would be referred as **'Shiv shakti Point.'**
- ❖ Moreover, the crash-landed site of Chandrayaan-2 on the lunar surface in 2019 is now known as **'Tiranga Point.'**

**6.17 ADITYA L1**



- ❖ ISRO will be launching the Aditya L1 mission on September 2<sup>nd</sup>.

### ABOUT ADITYA L1 MISSION

- ❖ Aditya-L1 will be the 1<sup>st</sup> Indian space mission to study the sun.
- ❖ It will be launched by Polar Satellite Launch Vehicle (PSLV).
- ❖ Spacecraft shall be placed in a halo orbit about 1.5 million km from Earth around Lagrangian point 1 (L1) of the Sun-Earth system.
- ❖ **Objective-** Aditya L1 will study the Sun's corona, Sun's photosphere, chromosphere, solar emissions, solar winds and flares, and Coronal Mass Ejections (CMEs), and will carry out round-the-clock imaging of the Sun.
- ❖ The 7 payloads include:
  - ✓ Visible Line Emission Coronagraph (VLEC)
  - ✓ Solar Ultraviolet Imaging Telescope (SUIT)
  - ✓ Solar Low Energy X-ray Spectrometer (SoLEXS)
  - ✓ High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)
  - ✓ Aditya Solar wind Particle Experiment (ASPEX)
  - ✓ Plasma Analyser Package for Aditya (PAPA)
  - ✓ Advanced Tri-axial High Resolution Digital Magnetometers
- ❖ Note- VLEC, SUIT, SoLEXS and HEL1OS are remote sensing payloads whereas ASPEX, PAPA and Magnetometers are in-situ payloads.

Lagrange Point is a spot in space where the force of gravity of the nearest celestial entities cancels each other out, helping an object remain in equilibrium.

## 7. ENVIRONMENT

### 7.1 PEDICULARIS REVEALIANA

- ❖ Scientists from the Botanical Survey of India (BSI) Prayagraj Centre have discovered a new hemiparasitic (partially parasitic) plant species, *Pedicularis Revealiana*, in the state of Sikkim.
- ❖ Along with making its own food, it has the ability to gather nutrients from the roots of trees and plants located nearby.

### 7.2 GREAT BARRIER REEF

- ❖ A UNESCO heritage committee recently stopped short of listing Australia's Great Barrier Reef as a site that is "in danger" but warned the world's biggest coral reef ecosystem remained under "serious threat" from pollution and the warming of oceans.

### ABOUT GREAT BARRIER REEF

- ❖ The GBR, extends for over 2,300 kilometers along the northeastern coast of Queensland, Australia.
- ❖ It is composed of over 2,500 individual reefs of varying sizes and shapes and over 900 islands.
- ❖ It is the longest and largest coral reef system in the world.
- ❖ It is home to over 9,000 known species.
- ❖ It was declared as a UNESCO World Heritage Site in 1981.
- ❖ Economic significance – It contributes about A\$6 billion (\$4 billion) to the economy and supports almost 64,000 jobs.

### 7.3 HIMALAYAN VULTURE

- ❖ India's first captive breeding success story of the Himalayan vultures inside the Assam State Zoo in Guwahati.
- ❖ With only France breeding Himalayan vultures in captivity, the achievement makes India the second country to do so.

- ❖ The captive breeding was a **joint project undertaken by the Bombay Natural History Society (BNHS) and the Assam forest department.**
- ❖ India has **nine species of vultures, six of which are found in Assam**
  - ✓ **Vultures of the genus 'Gyps'**
    - Oriental white-backed (**Assam**, critically endangered)
    - Long-billed (critically endangered)
    - Slender-billed (**Assam**, critically endangered)
    - Himalayan griffon (**Assam**, winter visitor from Himalayas)
    - Eurasian griffon (**Assam**, winter visitor from Himalayas)
  - ✓ **Single representative species**
    - Egyptian
    - Bearded
    - Cinereous (Assam)
    - King (Assam, critically endangered)

#### ABOUT HIMALAYAN VULTURE (GYPS HIMALAYENSIS)

- ❖ Also known as **Himalayan griffon vulture**, it is **one of two largest Old World vultures.**
- ❖ With **striking bald white heads and broad hefty wings**, it is the **largest member of the Gyps species.**
- ❖ It is **native to the Himalayas and the adjoining Tibetan Plateau** and also found in the **Central Asian mountains.**
- ❖ These are diurnal and mostly solitary species.
- ❖ **IUCN Red list status: Near Threatened**

#### 7.4 PALEO PROXIES

- ❖ The Paleo Proxy Technique is a **method used by scientists to reconstruct past climates and temperature variations** by analyzing indirect indicators or "proxies" found in natural materials.
- ❖ **Proxies are biological, chemical, or physical indicators that respond to temperature changes or other environmental conditions, preserving a record of past climate in their properties.**
  - ✓ These **measures are called "proxies"** because they **do not directly measure temperatures.** Instead, they are **simply the responses of physical, biological, and chemical processes to temperatures at that time having been warmer or colder than the baseline value.**
  - ✓ Such a **baseline is typically from the modern times**, when thermometer records have existed.
- ❖ Scientists derive **estimates of temperature anomalies** over shorter time scales **from tree rings, corals, and the shells of marine and terrestrial organisms.**

#### 7.5 IBERIAN WOLF

- ❖ The **Iberian wolf (Canis lupus signatus)**, the **species of gray wolf native to the Iberian Peninsula**, has been **extinct in the historic region of Andalusia in the extreme south of Iberia since 2020**, according to the regional government.
  - ✓ **Iberian peninsula** comprises **Spain and Portugal.**
  - ✓ **Andalusia** is an **'autonomous territory' of Spain** and consists of **eight provinces: Almería, Cádiz, Córdoba, Granada, Huelva, Jaén, Málaga, and Seville.**
- ❖ The **Iberian wolf**, like other types of gray wolf, **lives in packs that are territorial and hierarchical and led by a dominant breeding pair.**
- ❖ **IUCN Red list status- Vulnerable**

#### 7.6 RED SANDERS

- ❖ The **Directorate General of Foreign Trade (DGFT)** has issued **amendments in the Export Policy of Red Sanders wood exclusively sourced from cultivation origin obtained from private land** (including Pattaland) and **Confiscated source.**

## ABOUT RED SANDERS

- ❖ **Scientific name-** *Pterocarpus santalinus*
- ❖ It is locally known as **Yerra Chandanam, Rakta Chandanam.**
- ❖ It is an **Indian endemic tree species**, with a restricted geographical range in the Eastern Ghats.
- ❖ The **species is endemic to a distinct tract of forests in Andhra Pradesh.**
- ❖ Red Sanders **usually grow in the rocky, degraded and fallow lands with Red Soil and hot and dry climate.**
- ❖ It is a **very slow-growing tree species** that attains maturity after **25 – 40 years.**
- ❖ It is **fire-hardy and resistant to droughts.**
- ❖ Its **therapeutic properties are responsible for its high demand across Asia**, particularly China, for **use in cosmetics, medicinal products, and high-end furniture/woodcraft.**
- ❖ Conservation Status-
  - ✓ IUCN Red list status-**Endangered**
  - ✓ WPA 1972- **Schedule IV**
  - ✓ CITES- **Appendix II**

## 7.7 SIMLIPAL TIGER RESERVE

- ❖ To protect the **Similipal Tiger Reserve (STR) and its wildlife** in view of the killing of two forest frontline workers by alleged poachers, the **Odisha government has set up a joint task force (JTF) comprising around 200 armed police and forest personnel.**
- ❖ The task force has been assigned the **key responsibilities of collecting intelligence, identifying people holding illegal arms and ammunition and de-weaponing fringe/buffer villages of the tiger reserve and to prepare a database.**

## ABOUT SIMILIPAL TIGER RESERVE (STR)

- ❖ It is located in **Mayurbhanj district** of Odisha.
- ❖ **Simlipal** derives its name from **'Simul' (silk cotton) tree.**
- ❖ It was **declared as biosphere reserve in 1994** and added to **UNESCO's Man and Biosphere Program in 2009.**
- ❖ **Vegetation**-includes **tropical semi-evergreen forests, tropical moist deciduous forests, dry deciduous hill forests, high level sal forests and sprawling meadows.**
- ❖ **Fauna:** langur, giant squirrel, chausingha (four horned antelope), wild boar, jungle cat, gaur, barking deer, sambar, Asian elephant, leopard and tiger.
- ❖ Numerous waterfalls and perennial streams flow into **major rivers, such as the Budhabalang, Baitarani and Subarnarekha.**
- ❖ The **highest peak** in the **Similipal hill range** is **Khairiburu (1,168 metres).**

## 7.8 YELLOW-BELLIED SEA SNAKE

- ❖ A rare **yellow belly snake** was seen on the **coast of Digha Bay of Bengal** amid huge tides recently.

## ABOUT YELLOW-BELLIED SEA SNAKE

- ❖ **Scientific name-** *Pelamis Platurus*
- ❖ The snake is **originally from the Arabian Sea** and found **very rarely in the Bay of Bengal.**
- ❖ **Characteristics-** The **side of the tail is like the paddle of a boat** and the **lower abdomen is yellow** making it **different** from other reptile species.
- ❖ It can **swim by lateral undulation of the body**, and can **move both forwards and backwards.**
- ❖ It is a **diurnal sea snake and primarily aquatic**, living its **entire life cycle at sea.**
- ❖ This snake can **spend up to 3 hours underwater without surfacing.**
- ❖ It can **uptake up to 33% of its oxygen requirements** through the skin **while diving and swimming at the surface of the water.**
- ❖ They are **carnivores (piscivores)** and **eat only fish.**
- ❖ It is a **highly venomous species of snake.**
- ❖ IUCN Red List status- **Least Concern**

## 7.9 WATER NEUTRALITY REPORT

- ❖ The government's think-tank **NITI Aayog** has laid out a **standard definition** and **approach of water neutrality for industries** in a new report released.
- ❖ According to the Aayog, henceforth **water neutrality will be defined as-**
  - ✓ "total freshwater consumption which is referred to as the sum total of direct freshwater use as well as estimated indirect or virtual water use as a part of water critical supply chains, applicable as on current date referred to as the date on which the evaluation is done, should either be less than or equal to all the quantifiable (and verifiable) water savings achieved through strategies undertaken as well as to be further (and futuristically) executed towards improving operational water use efficiencies, water conservation efforts."
- ❖ In its **report**, the Aayog has estimated that **practicing water neutrality standards could lead to a total savings of 38.23 BCM (billion cubic metre)** of water over the next 10 years till 2032.
- ❖ As per the report, the primary **aim of the water neutrality concept** is to **reduce demand for water but not regarding it as a replacement for existing regulatory tools**.
- ❖ Benefits- it will help **save water**, lead to its **efficient use and enable evaluation and validation** of the **water neutrality claims made by industries**.

## 7.10 75 ENDEMIC BIRDS OF INDIA PUBLICATION

- ❖ A publication, titled '**75 Endemic Birds of India**', was **recently released on the 108th foundation day of the Zoological Survey of India (ZSI)**.

### MAJOR FINDINGS

- ❖ About **5% of birds found in the country are endemic and are not reported in other parts of the world**.
- ❖ India is **home to 1,353 bird species**, which **represents approximately 12.40% of global bird diversity**. Of these, **78 (5%) are endemic to the country**.
- ❖ Of the 78 species, **three species have not been recorded in the last few decades**. They are
  - ✓ the **Manipur Bush Quail** (*Perdicula manipurensis*), listed as '**Endangered**' by the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species with its last recorded sighting in 1907;
  - ✓ the **Himalayan Quail** (*Ophrysia superciliosa*), listed as '**Critically Endangered**' with its last recorded sighting in 1876; and
  - ✓ the **Jerdon's Courser** (*Rhinoptilus bitorquatus*), listed as '**Critically Endangered**' with its last confirmed sighting in 2009.
- ❖ The publication points out that the **75 bird species belong to 11 different orders, 31 families, and 55 genera**, and exhibit **remarkable distribution patterns across various regions in India**.
- ❖ The **highest number of endemic species** have been recorded in the **Western Ghats, with 28 bird species**. These include-
  - ✓ **Malabar Grey Hornbill; Malabar Parakeet; Ashambu Laughing Thrush; and the White-bellied Sholakili**.
- ❖ **25 bird species are endemic to the Andaman and Nicobar Islands**.
  - ✓ Endemism in the Andaman group of islands must have developed because of the geographical isolation of the region.
  - ✓ Some interesting bird species which are only found in the Andaman and Nicobar Islands are **Nicobar Megapode; Nicobar Serpent Eagle; Andaman Crane; and Andaman Barn Owl**.
- ❖ **Four species of birds are endemic to the Eastern Himalayas, and one each to the Southern Deccan plateau and central Indian forest**.
- ❖ Of the **78 endemic species-**
  - ✓ **25** are classified as '**Threatened**' by the IUCN.
  - ✓ **3** species (*Bugun Liocichla; Himalayan Quail; Jerdon's Courser*) are listed as '**Critically Endangered**'.
  - ✓ **5** species as '**Endangered**', and
  - ✓ **17** as '**Vulnerable**', while

- ✓ 11 are categorised as 'Near Threatened' on the IUCN Red List.

### 7.11 VAQUITA PORPOISE AND IWC

- ❖ The **International Whaling Commission (IWC)** has issued an **extinction alert** for the **vaquita porpoise**, whose **population is estimated to have shrunk to less than a dozen**.
- ❖ This marks the **institution's first-ever extinction warning**.
- ❖ The IWC's **scientific committee highlighted in a report** an **83% drop in the vaquita's population between 2015 and 2018 to only nine or 10 of the marine animals in total**.

#### ABOUT VAQUITA

- ❖ The **critically endangered vaquita** is the **world's smallest porpoise**.
- ❖ It is **also known as vaquita marina**.
- ❖ It is **native to Mexico's Gulf of California**.
- ❖ They are known for their **distinctive appearance**, characterized by **dark rings around their eyes and dark patches on their lips**.
- ❖ It has been **imperiled by illegal gill net fishing** for an **endangered fish called the totoaba**, whose bladder is highly valued in Asia.

#### ABOUT IWC

- ❖ **International Whaling Commission** was set up as an **inter-governmental organisation** under the **International Convention for the Regulation of Whaling (1946)**.
- ❖ Headquarters- **Cambridge, England**
- ❖ It has **88 member countries including India**.
- ❖ The **objective** of the International Whaling Commission is **to ensure the proper conservation of whale stocks and, in turn, enable the industry's orderly growth**.

### 7.12 THAROSAURUS INDICUS

- ❖ The fossil remains of **167-million-years-old long-necked, plant-eating dicraeosaurid dinosaur** have been discovered in **Jaisalmer, Rajasthan**.
- ❖ Scientists from the **Indian Institute of Technology (IIT) Roorkee** and the **Geological Survey of India (GSI)** managed to unearth the prehistoric findings.
  - ✓ The **fossils were collected from the Jaisalmer region in 2018** and a group of six researchers from the two institutes, spent almost five years studying them.
- ❖ It is named as '**Tharosaurus indicus**'- the nomenclature **paints a vivid picture—'Thar desert', the very cradle of discovery**, and '**Indicus**', an **ode to its country of origin, India**.
- ❖ The **discovery of the fossils**, of all the places in India, suggests that the **country also played a small yet unexpected part in the dinosaur evolution cycle**.
- ❖ Researchers said since the fossils were found in rocks dated to be around 167 million years old, **it makes Indian sauropod not only the oldest known dicraeosaurid but also globally the oldest diplodocoid** (broader group which includes dicraeosaurids and other closely related sauropods).
- ❖ **Previously, dicraeosaurid dinosaurs fossils have been discovered** in North and South America, Africa and China but **never in India**.

### 7.13 INDIAN EAGLE OWL

- ❖ The **Indian eagle-owl** was classified as a species only in recent years, thus **distinguishing it from the Eurasian eagle-owl**.

#### CHARACTERISTICS

- ❖ It is an **imposing bird**.
- ❖ The **slightly larger female can reach a total length of two and a half feet**, with a **wingspan of six feet**.
- ❖ **Prominent ear tufts that look like horns** are seen to project from its head.

- ❖ The **widespread range** includes the **entire Indian peninsula**.
- ❖ It has **nocturnal habits** have meant that **very little is known about this bird**.
- ❖ The Indian eagle-owl **does not have a dependency on forests**.
  - ✓ It feeds on **rats, bandicoots, and even bats and doves**, which are **hunted over open scrubland and agricultural tracts**.
  - ✓ Nearby **rocky perches and crags provide ideal settings for its nests**.
  - ✓ Near human settlements, they **prefer mango trees**.
- ❖ **Farmers definitely profit** from the presence of this owl as **they feast on rodents near farms**.
- ❖ **IUCN Red List status- Least Concern**

#### 7.14 BELEM DECLARATION

- ❖ **Eight Amazonian countries** were **unable to reach an agreement on the protection of the Amazon rainforest** during the **Amazon Summit** organized by the **Amazon Cooperation Treaty Organization (ACTO)**.
  - ✓ The **goal proposed by Colombia** to protect **80% of the Amazon from deforestation and degradation by 2025** did not garner unanimous support.
- ❖ However, member countries of ACTO **signed the Belém Declaration in the Brazilian city of Belém**.

#### ABOUT BELEM DECLARATION

- ❖ Belém Declaration **calls for ensuring participation of Indigenous Peoples in decision-making**.
- ❖ It promotes **sustainable forest use and diverse economic solutions**, addressing concerns about deforestation and degradation in the Amazon region.
- ❖ Emphasizes the **need to protect land rights to prevent deforestation and preserve biodiversity within Indigenous territories**.
- ❖ It also **commits to launching the Amazon Alliance to Combat Deforestation**.

#### ABOUT ACTO

- ❖ ACTO is an **intergovernmental socio-environmental block** formed by signing of the **Amazon Cooperation Treaty**.
- ❖ **Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela** are its members.
- ❖ It is the **only socio-environmental block in Latin America**.
- ❖ **Dutch, English, Portuguese, and Spanish** are the **four official languages**.

#### 7.15 COMMUNITY RESERVES

- ❖ Meghalaya government has notified **several sacred forests as Community Reserves**.

#### ABOUT COMMUNITY RESERVES

- ❖ **Community reserves** fall under **protected areas**, along with **marine protected areas, national parks, wildlife sanctuaries and conservation reserves**, according to the **Wild Life (Protection) Act (WLPA), 1972**.
- ❖ It **denotes protected areas** that typically **act as buffer zones** between established **national parks, wildlife sanctuaries, etc**.
- ❖ **Conservation reserves and community reserves** are protected area **categories** were **first introduced in the Wild Life (Protection) Amendment Act of 2002** — the amendment to WLPA, 1972.
- ❖ The **provisions of the WLPA apply to an area** once it has **been declared a community reserve**.
- ❖ **State Government** may **designate any community land or private land as a Community Reserve** if the **members of that community or individuals involved agreed**.
- ❖ **Chief Wildlife Warden** of the State becomes the **governing authority of such forest**.
- ❖ Once a forest area is designated as a community reserve, it **becomes a no-hunting zone**.
  - ✓ Similarly it **cannot be used it for agricultural practices**.

#### 7.16 FLYING FOX BAT

- ❖ India's largest species of bats, named after a canine fabled to be sly, spends 7% of its day-roosting time being environmentally vigilant, a new study has said.

#### ABOUT FLYING FOX BAT (PTEROPUS GIGANTEUS)

- ❖ The nectar and fruit-eating flying fox is generally considered vermin as they raid orchards.
- ❖ It had a similar official status under the Schedule V of the Wildlife (Protection) Act of 1972 until it was put on the Schedule II list, entailing a higher degree of protection.
- ❖ It is a keystone species which helps in seed dispersals of many plants in tropical systems.
- ❖ The community's diversity and abundance of other species are influenced by the flying fox's contribution to seed dispersal, which also affects different aspects of the environment.
- ❖ They can be found in India, Sri Lanka, Bangladesh, Bhutan, Nepal, Myanmar, Tibet, Maldives, and Pakistan.
- ❖ It is a highly social creature, living in large roosts of several hundred animals.
- ❖ Threats-
  - ✓ The biggest threat to the flying fox is from humans.
  - ✓ Hunting for meat and medicine and probable threats like the felling of roost trees have contributed to the dramatic decrease in the population of the species.
- ❖ IUCN Red List – Least Concern

A keystone species is one that, concerning the size of its population, significantly affects its surroundings.

#### 7.17 NAWEGAON-NAGZIRA TIGER RESERVE

- ❖ In a big blow to Navegon-Nagzira Tiger Reserve (NNTR) struggling to revive its tiger population, a young male died in a road hit near Murdoli village in the buffer zone of the reserve.
- ❖ As per the All-India Tiger Estimation (AITE-2022), the 656sqkm NNTR has 11 tigers.

#### ABOUT NAVEGON-NAGZIRA TIGER RESERVE

- ❖ Nawegaon-Nagzira Tiger Reserve is situated in Gondia and Shandara Districts of Maharashtra.
- ❖ It comprises of Nawegaon National Park, Nawegaon Wildlife Sanctuary, Nagzira Wildlife Sanctuary, New Nagzira Wildlife Sanctuary and Koka Wildlife Sanctuary.
- ❖ It has linkages with Kanha, Pench and Tadoba Tiger Reserves.
- ❖ 'Zenda Pahad' around 702 m above MSL is the highest point.
- ❖ Vegetation is Southern Tropical Dry Deciduous Forest which includes dry mixed forests to moist forest type. There are 364 species of plants.
- ❖ The major wild animals include Tiger, Panther, Small Indian Civet, Palm Civet, Wolf, Jackal, Wild Dog, Sloth Bear, Ratel, Common Giant Flying Squirrel, Gaur, Sambar, Chital, Four Horned Antelope, Mouse Deer and Pangolin.

#### 7.18 GLYPHOSATE

- ❖ Agricultural experts have warned pesticide sellers against the sale and storage of glyphosate as its exposure is known for causing cancer.
- ❖ Alternative herbicides are available in the market and the farmers are recommended use them.

#### ABOUT GLYPHOSATE

- ❖ It is a widely used herbicide which was developed in 1970.
  - ✓ A herbicide is an agent, usually chemical, for killing or inhibiting the growth of unwanted plants, such as residential or agricultural weeds and invasive species.
- ❖ It is applied to the leaves of plants to kill weeds.
- ❖ It is used primarily in agriculture but also in forestry and lawn and garden care.
- ❖ It is considered a broad-spectrum herbicide.
  - ✓ It can effectively control a wide variety of plants, including grasses, broadleaf plants, and woody plants.

- ❖ It is also a non-selective herbicide that means it kills most plants.
- ❖ **Health Concerns-**
  - ✓ Health impacts of glyphosate range from cancer, reproductive and developmental toxicity to neurotoxicity and immunotoxicity.
  - ✓ Also it does not degrade quickly in plants which increase the possibility that its residues can occur in food products.
- ❖ In 2022, The Union Agriculture Ministry had restricted the use of glyphosate.
  - ✓ The spraying of glyphosate and its derivatives is only permitted through “pest control operators”.

## 7.19 TAMPARA LAKE

- ❖ The National Green Tribunal, Eastern Zone, has directed the Odisha government not to go ahead with ‘illegal’ construction in and around Tampara Lake.

### ABOUT TAMPARA LAKE

- ❖ It is a designated Ramasar site and one of the largest picturesque freshwater lakes of the Odisha.
- ❖ It is spread across 337.86 ha with a length of 5.8 km and a width of 670 metres in Ganjam district, Odisha.
- ❖ It supports at least 60 species of birds, 46 species of fishes, at least 48 species of phytoplanktons, and more than seven species of terrestrial plants and macrophytes.
- ❖ There is a patch of forest with width of 2 km that separates Bay of Bengal from the lake.
- ❖ The wetland is an important habitat for vulnerable species such as *Cyprinus carpio*, common pochard (*Aythya ferina*), and river tern (*Sterna aurantia*).
- ❖ Tampara is already placed in the Wetland Atlas prepared by Ministry of Environment, Forest and Climate Change in 2010.

## 7.20 TYLOTOTRITON ZAIMENG

- ❖ A new species of salamander — the *Tylototriton zaimeng* — has been discovered in the Zaimeng Lake within the Koubru Forest Division in Kangpokpi district in Manipur.
- ❖ The *Tylototriton zaimeng* had earlier been mistaken for its close relatives — the *T. himalayanus* and the *T. verrucosus*.
- ❖ But phylogenetic analysis revealed that the new salamander is a sister species of the *T. panwaensis* and *T. houi* found in northern Myanmar and southern China, respectively.
- ❖ **Characteristics**
  - ✓ It is a medium-sized salamander unlike any other.
  - ✓ Its head is massive and wide, with a rounded snout and protruding supratemporal bony ridges.
  - ✓ The creature’s limbs are short and elegantly formed and do not overlap when adpressed along its body.
  - ✓ A wide and unsegmented vertebral ridge ran along its back, accompanied by 13-14 pairs of rib nodules.
  - ✓ *T. zaimeng* displayed a stunning brown colouration, embellished with dull orange to yellowish-brown markings on its head, vertebral ridge, rib nodules, palms, soles, vent, and ventral tail ridge.
  - ✓ Vomerine teeth, elegantly organized in two distinctly curved bell-shaped series, further differentiated this mysterious creature.
- ❖ The researchers advocated the inclusion of the new salamander species in the International Union for Conservation of Nature (IUCN) Red List as a vulnerable species, emphasising the need for conservation efforts to protect it and its fragile habitat.

### ABOUT ZAIMENG LAKE

- ❖ Zaimeng in the Liangmai Naga dialect means “puzzle” or “mystery”.
- ❖ It is a fresh water lake.
- ❖ It is situated on top of Khongtheng mountain ranges at Thonglang village (Bena Tababang).



- ❖ The estimated height of this lake is 2176 metres above sea level.

## 7.21 DEEMED FORESTS

- ❖ Odisha government has withdrawn controversial 'deemed forest' order in which district officials were told that 'deemed forests' as a category would cease to exist under the recently amended Forest Conservation Amendment Act 2023.
- ❖ Deemed forest is land which appears to be a forest but is not notified as forest land by the Centre or the state government.
- ❖ The concept came into existence following a Supreme Court order in the TN Godavarman case in 1996, which directed the state government to record such land.

## 7.22 MINAMATA CONVENTION

- ❖ 16<sup>th</sup> August 2023 marked the sixth anniversary of coming into force of the Minamata Convention on Mercury.

### ABOUT MINAMATA CONVENTION

- ❖ It is the first global landmark treaty to protect people and the environment from the toxic effects of mercury.
- ❖ It was agreed at the fifth session of the Intergovernmental Negotiating Committee in Geneva, Switzerland in 2013.
  - ✓ It came into effect in 2017.
- ❖ Currently it has 144 parties and 128 signatories.
  - ✓ India ratified it in 2018.
- ❖ It is named after the Japanese city of Minamata, which experienced a severe, decades-long incidence of mercury poisoning in 1950s after industrial wastewater from a chemical factory was discharged into Minamata Bay.
- ❖ Major highlights of the Minamata Convention on Mercury include
  - ✓ a ban on new mercury mines,
  - ✓ the phasing out of existing mines and mercury-added products,
  - ✓ control measures on air emissions,
  - ✓ interim storage of mercury and its disposal
- ❖ The Global Environment Facility Trust Fund (GEF) is one of the two components of the financial mechanism of the Minamata Convention on Mercury, together with the Specific International Programme.

Mercury is a toxic chemical that can cause issues in thyroid, kidneys, lungs, immune system, eyes, gums, irreversible brain damage and disrupt ecosystem health.

There is no known safe exposure level for elemental mercury in humans, and effects can occur at even very low levels.

It is considered by WHO as one of the top ten chemicals of major public health concern.

### NOTE:

- ❖ The planetGOLD programme, led by the United Nations Environment Programme (UNEP), aims to end the toxic trail of small-scale gold mining which includes use of mercury.

## 7.23 FLOODWATCH APP

- ❖ The Central Water Commission launched an app, called 'Floodwatch', which can forecast the chances of floods a day in advance.
- ❖ It also provides a seven-day advisory on the chances of floods at various stations in the country where the CWC maintains its measurement gauges.
- ❖ The app has a map of India with coloured circles at water stations across the country indicating the current risk of flooding.

<u>Colour</u>	<u>Risk</u>
Green	Normal
Yellow	Above normal
Orange	Severe
Red	Extreme

- ❖ Clicking on a circle shows the current water level at the station, the highest level historically attained, the danger level and warning level.
- ❖ The warnings are in English or Hindi with an option for a voice-enabled prompt.
- ❖ The app will also provide State-wise/basin-wide flood forecast up to 24 hours or flood advisory, up to seven days, that can be accessed via selecting specific stations.
- ❖ Flood watch uses advance technologies such as satellite data analysis, mathematical modelling and real-time monitoring to deliver accurate and timely flood forecasts.

### 7.24 INDIA'S 1ST HYDROGEN BUS IN LEH

- ❖ National Thermal Power Corporation Ltd has started a trial run of a hydrogen bus in Leh.
- ❖ NTPC is setting up a hydrogen fuelling station, solar plant(1.7 MW) and providing five fuel cell buses for operation on intracity routes of Leh.
- ❖ This is India's first ever deployment of hydrogen buses on public roads.
- ❖ The fuel cell buses are designed for operation in sub-zero temperatures in rarefied atmosphere, which is typical for high altitude locations.

National Thermal Power Corporation is India's largest power producer and a central PSU under Ministry of Power.

### 7.25 FACT SHEET TO PROMOTE AGROFORESTRY

- ❖ The central government has published a fact sheet listing 36 species that can be grown in different agro-climatic zones.
- ❖ It was prepared by the Indian Council of Forestry Research and Education.
- ❖ It recommends cultivating 36 specific species, including bamboo, that are suitable for agroforestry systems and home gardens.
- ❖ The 36 species include *Leucaena leucocephala*, or subabul, and various varieties of eucalyptus.
  - ✓ Subabul is considered an invasive species.
  - ✓ Eucalyptus is considered highly water-intensive.
- ❖ The list also includes important timber species such as poplar, teak, shisham (Indian rosewood) and mahogany.

#### ABOUT AGROFORESTRY

- ❖ It is a combination of practising agriculture and forestry together on the same unit of land.
- ❖ It is a traditional practice recognizing and promoting trees and/or livestock on farms in a special arrangement pattern.
- ❖ Major agroforestry systems based on type of components include:
  - Agrisilviculture (crops + trees)
  - Silvopastoral (pasture/ livestock + trees)
  - Agrosilvopastoral (crops + livestock + trees)
- ❖ Advantages of agroforestry
  - ✓ farm profitability- the combined output of trees, crops, and livestock per unit area is greater
  - ✓ mulch and leaf litter as manure and bio-pesticides from tree components;

- ✓ crops and livestock **protected from wind damage**;
- ✓ new products from agroforestry **increasing financial flexibility and diversification of farming enterprises and diversification**;
- ✓ **carbon sequestration**.

#### ABOUT INDIAN COUNCIL OF FORESTRY RESEARCH AND EDUCATION

- ❖ It is an **autonomous council** under **Ministry of Environment, Forest, and Climate Change** and is **registered as a society**.
- ❖ It is an **apex body in national forestry research system**.
- ❖ Headquarters- **Dehradun**

#### 7.26 NAMOH 108

- ❖ A **new variety of lotus flower** called '**Namoh 108**' has been **developed by the Lucknow Institute CSIR-NBRI (National Botanical Research Institute)**.
  - ✓ **Namoh** in Sanskrit translates to '**salutations**.'
- ❖ It has **108 petals** and was **discovered** several years ago in **Manipur**.
- ❖ It was only after the number of petals was discovered that **the NBRI cloned and worked on improving its germplasm and modifying its characteristics in a way that it could be cultivated relatively easily outside of Manipur**.
- ❖ The **Namoh 108 lotus variety flowers from March to December** and is **rich in nutrients**.
- ❖ This is the **first lotus variety whose genome is completely sequenced for its characteristics**
- ❖ **Apparel** made from the 108 fibre as well as **perfume, named 'Frotus'**, were also **launched**.
- ❖ **CSIR-NBRI** would be **initiating a 'Lotus Mission'** as part of a **larger ongoing horticultural mission to have more of the 108 Namo flowers grow in other parts of India**.

#### 7.27 ALCANIVORAX BORKUMENSIS

- ❖ **Obligately hydrocarbonoclastic bacteria (OHCB)** survive by **consuming hydrocarbons as a sole carbon and energy source**.
- ❖ These marine bacteria **play an integral role in the bioremediation of spilled petroleum worldwide**.
- ❖ **Alcanivorax borkumensis (or Alca)**, an **aerobic and rod-shaped OHCB** that **feasts on organic acids and alkanes, bloom during oil spills to exploit the hydrocarbons contained within crude oil**.
- ❖ "**Oil-eating**" **Alcanivorax borkumensis bacteria** form "**dendritic**" **biofilms** that **reshape oil droplets, and increase the surface area to speed up the rate of consumption**.

#### 7.28 HANGUL

- ❖ Population of **Hangul (Kashmir stag)** has registered a **10% increase**.
- ❖ The **latest census** revealed that the **population of the animal has increased to 289 from 261 in 2021, a 10% increase**.
  - ✓ From **197 animals in 2004**, the population dwindled to 127 in 2008 **before stabilising and marginally increasing to 289 now**.
- ❖ The last viable population of **Hangul (Cervus hanglu hanglu)** in the Indian sub-continent **exists only in the protected Dachigam National Park**.
  - ✓ Lately, there were sightings in **south Kashmir in Tral Wildlife Sanctuary**.
- ❖ There were **3 major factors in the past two decades** which led to **stabilisation of the population of the animal**.
  - ✓ **Protection of its habitat in the form of Dachigam**
  - ✓ **Restricting of human movement** inside the core area of the park to almost zero
  - ✓ **Removal of a sheep breeding farm** from inside the park.
- ❖ It is the **only survivor of the red deer group in the Indian sub-continent**.

- ❖ **Threats**- habitat fragmentation and poaching, livestock grazing, predation, ecological threats and disturbed corridors, and landscapes.
- ❖ A **population census is conducted every two years.**
- ❖ **Protection status**
  - ✓ IUCN Red List- **critically endangered**
  - ✓ WPA 1972- **Schedule 1**

### 7.29 PALM COCKATOO

- ❖ Six **Palm cockatoos** or **black cockatoos**– **Australian exotic birds**– were rescued from **Assam’s Cachar district.**

#### ABOUT PALM COCKATOOS

- ❖ Scientific name- **Probosciger aterrimus**
- ❖ It is a **large smoky-grey or black parrot of the cockatoo family** native to the rainforests and **woodlands of New Guinea and Cape York Peninsula, Queensland, Australia** as well as found near **Sorong, West Papua, Indonesia** where it is **sometimes seen in trees along the roads.**
- ❖ It has a **very large black beak and prominent red cheek patches.**
- ❖ The **palm cockatoo** is a **member of the white cockatoo subfamily Cacatuinae.**
- ❖ The **vocalisations of palm cockatoos are similar to those of most wild parrots**, but they have also been shown to produce a **variety of additional syllables.**
- ❖ These **additional syllables are mainly produced by males** and are often combined to form long, complex sequences.
- ❖ It **can mimic human voice and can communicate in words** if trained.
- ❖ Anecdotal evidence indicates a **palm cockatoo reaching 80 or 90 years of age** in an Australian zoo, although the **oldest confirmed individual was aged 56 at the London Zoo in the year 2000.**
- ❖ Protection status
  - ✓ **IUCN red list : Least Concern**

### 7.30 METHYLOTUVIMICROBIUM BURYATENSE 5GB1C

- ❖ **Methylovimicrobium buryatense 5GB1C** is an **extant gammaproteobacterial methanotroph** that can **grow at low methane concentrations in the range from 200 ppm to 1,000 ppm.**
- ❖ It **exhibits greater methane consumption rates at both low and high methane compared to other methanotroph strains.**
- ❖ These features **make this strain a promising candidate for methane removal technology at emission sites with enriched methane in air like- landfills, paddy fields, and oil and gas wells.**

**Methane is a potent greenhouse gas and has a global warming potential over 85 times greater than carbon dioxide on a 20-year timescale.**

**Atmospheric methane accounts for about 30% of total global warming.**

#### ABOUT METHANOTROPHS

- ❖ **Methanotrophs are bacteria** for which **methane is their carbon and energy source.**
- ❖ Such bacteria **naturally convert methane to CO<sub>2</sub> and biomass**, a **value-added product** and a **co-benefit of methane removal.**
- ❖ Typically, **methanotrophs grow best at around 5,000 to 10,000 ppm methane**, but **methane in the atmosphere is 1.9 ppm.**

### 7.31 DHOLPUR-KARAUJI TIGER RESERVE

- ❖ **Rajasthan got its fifth tiger reserve** as **National Tiger Conservation Authority** gave its **final approval to Dholpur-Karauli Reserve.**
  - ✓ It will be **India’s 54<sup>th</sup> Tiger Reserve.**

- ❖ The **Karauli-Sarmathura-Dholpur sanctuary in Rajasthan** has been **officially designated areas as Dholpur-Karauli Tiger Reserve.**
  - ✓ The **other four tiger reserves** in Rajasthan: **Ramgarh Vishdhari Tiger Reserve, Mukandra Hills Tiger Reserve, Ranthambore Tiger Reserve and Sariska Tiger Reserve.**
- ❖ The new tiger reserve **will span 1,058 sq km, including 368 sq km of core area and 690 sq km of buffer. area.**
- ❖ The forest areas designated to be declared as a tiger reserve currently have nine tigers.

Tiger reserves are constituted using a core and buffer method.

The core area is legally designated as a national park or a sanctuary.

In contrast, the buffer or peripheral areas are a mix of forest and non-forest land, which is maintained as a mixed-use area.

**Note-**

- ❖ **Project Tiger**, launched in **1973**, has expanded its coverage to **53 tiger reserves** across **18 of our tiger range states** covering a total area of **75,796.83 sq km(2.3% of India’s geographical area).**

**7.32 PENCH TIGER RESERVE**

- ❖ Visitors to **Pench Tiger Reserve** will now be able to experience **cycle safari.**
- ❖ The cycle safari will be on the **Kolitmara to Kunwara Bhivsen stretch.**
- ❖ This **stretch is 48 km long** and it takes visitors through the forested areas of **Narhar, Banera and Chargaon.**

**ABOUT PENCH TIGER RESERVE**

- ❖ The Reserve is located in the **southern reaches of the Satpura hills in the Seoni and Chhindwara districts in Madhya Pradesh** and continues in **Ramtek, Parseoni and Saoner tehsil of Nagpur district, Maharashtra as a separate Sanctuary.**
- ❖ It includes the **Indira Priyadarshini Pench National Park, the Pench Mowgli Sanctuary and a buffer.**
  - ✓ It is **25<sup>th</sup> tiger reserve of India.**
- ❖ The **Pench Tiger reserve (PTR)** derives its name from the **River Pench, which divides the reserve in almost two equal halves** and **Totladoh reservoir built on the Pench river plays an important role in enriching and sustaining the wild life in the tiger reserve.**
- ❖ It is spread over **741.41 Sq.km of area.**
- ❖ **Flora- teak, saag, mahua, and various grasses and shrubs.**
- ❖ **Faunal species include tiger, leopard, sloth bear, Sambar, Nilgai, Indian gaur, wild dog, wolf etc.**

**7.33 LION TAILED MACAQUE**

- ❖ A **Lion Tailed Macaque** has been **sporadically spotted by conservationists in the forests of Nadugani, shared by the Nilgiris district in Tamil Nadu and Nilambur in Kerala.**

**ABOUT LION TAILED MACAQUE**

- ❖ Scientific name - **Macaca silenus**
- ❖ It is also known as **the wanderoo or bearded monkeys.**
- ❖ It is **an Old World monkey endemic to the Western Ghats of South India.**
- ❖ They have a **grey mane around their face** and a **lion-like, long, thin, and tufted tail.**
- ❖ **Males of this species communicate** with their home ranges with sounds, one of its distinguishing characteristics.
- ❖ Lion-tailed macaques are **omnivores** and diet consists of local fruits, seeds, flowers, insects, snails, and small vertebrates.
- ❖ Protection status
  - ✓ IUCN red list Status- **Endangered**
  - ✓ CITES- **Appendix-1**

- ✓ WPA 1972- Schedule 1

### 7.34 JAMBUGHODA WILDLIFE SANCTUARY

- ❖ Gujarat State Board for Wildlife (GSBWL) recently deferred a decision on a proposal of the **Gujarat State Minerals Development Corporation (GSDMA)** seeking **more land for “removing manganese dump”** from the eco-sensitive zone (ESZ) of **Jambughoda Wildlife Sanctuary**.
- ❖ Spread over **130.38 square kilometres**, the **Jambughoda Wildlife Sanctuary** is a **protected dry, deciduous forest**.
- ❖ **Flora**- Teak, mahua and bamboo
- ❖ **Faunal species**- wild boars, nilgais (blue bull), jackals, hyenas, barking deer, sloth bears, and chausinghas (four-horned antelope) and leopards.
- ❖ It was **established in 1989**, but the **status of a wildlife sanctuary was given only in May 1990**.

### 7.35 STATE OF INDIA'S BIRDS 2023 REPORT

- ❖ The report is an **assessment of the distribution range, trends in abundance and conservation status of 942 of India's 1,200 bird species** and has been carried out by **13 partner organisations**, including the **Wildlife Institute of India (WII)** and **Zoological Survey of India (ZSI)**.
- ❖ The assessments **rely on three indices**-
  - ✓ **long-term trend (change over 30 years)**
  - ✓ **current annual trend (change over past seven years)**
  - ✓ **measure of distribution range size in India.**

#### MAJOR FINDINGS

- ❖ There is a **general decline in numbers in most bird species** in the country. **Raptors, migratory shorebirds and ducks** have **declined the most**.
- ❖ **Bird species** such as the **Indian Peafowl, Rock Pigeon, Asian Koel and House Crow** are healthy in both abundance and distribution, and showing an **“increasing trend”**.
  - ✓ In the last 20 years, **Indian Peafowl has expanded into the high Himalaya** and the rainforests of the **Western Ghats**.
- ❖ **Of the 338 species**, for which **long-term trends** have been identified, it says, **204 or 60% have declined in the long term, 98 species are stable, while 36 have increased**.
- ❖ Using IUCN standards, the report says that **178 bird species are high conservation priority, 323 as moderate priority and 441 as low priority**.
- ❖ Bird species which are **“specialists”** – restricted to narrow habitats like wetlands, rainforests and grasslands, as opposed to species that can inhabit a wide range of habitats such as plantations and agricultural fields – are **rapidly declining**.
  - ✓ The **“generalist” birds** that can **live in multiple habitat types are doing well as a group**.
- ❖ **Long-distance migratory birds**, such as those from Eurasia and the Arctic, have **suffered significant declines**, while **resident species remain more stable**.
- ❖ **Major threats** include- **Climate Change, Urbanization, Monocultures, Energy Infrastructure**.

Specifically, the three bustard species that breed in India - **the Great Indian Bustard, Lesser Florican and Bengal Florican** - face **imminent extinction**.

### 7.36 EMPEROR PENGUIN

- ❖ As per a new study, up to **10,000 emperor penguin chicks** across **four colonies in Antarctica's Bellingshausen Sea** may have **died as the sea ice underneath their breeding grounds melted and broke apart in late 2022**.

#### ABOUT EMPEROR PENGUIN (APTENODYTES FORSTERI)

- ❖ It is the **tallest and heaviest** of all 18 living penguin species.
- ❖ It is **endemic to Antarctica**.
- ❖ The diet primarily **consists of fish, but also includes crustaceans and squids**.
- ❖ They have **two layers of feathers, a good reserve of fat and proportionally smaller beaks and flippers than other penguins to prevent heat loss**.
- ❖ It is the **only penguin species that breeds during the Antarctic winter**.
  - ✓ They breed and raise their young mostly on 'fast ice', a floating platform of frozen ocean which is connected to the land or to ice shelves.
- ❖ **Approximate population- 600,000**
- ❖ The **lifespan** is typically **20 years in the wild**, although observations suggest that some individuals may live to 50 years of age.
- ❖ IUCN status: **Near threatened**.

### 7.37 ADDIS ABABA DECLARATAION

- ❖ **Environment ministers of the African continent have agreed to institute national and regional strategies to minimise environmental impacts in the extraction and processing of critical mineral resources.**
- ❖ **Fifty-four countries acknowledged key environmental challenges faced by the continent — land degradation, desertification and drought – in the Addis Ababa declaration signed on August 18, 2023.**
- ❖ **The declaration was a key outcome of the 19<sup>th</sup> African Ministerial Conference on the Environment (AMCEN) 2023 held at Addis Ababa, Ethiopia.**
- ❖ **The theme for AMCEN 2023 was “Seizing Opportunities and Enhancing Collaboration to Address Environmental Challenges in Africa”.**
- ❖ **The declaration prioritises urgent, wide-ranging action on environmental challenges related to climate change, plastics pollution, marine protection, biodiversity conservation and natural capital.**
  - ✓ **These actions would minimise environmental impacts and contribute to the global goals of mitigating climate change, protecting ecosystems and promoting sustainable development.**

### 7.38 TAKAHE

- ❖ **A large flightless bird named Takahe, which was believed to be extinct decades ago, has made a comeback to the forests of New Zealand's South Island.**
- ❖ **18 of these birds were recently reintroduced into the Lake Wakatipu valley, an alpine area on the South Island, where they had not been spotted for nearly a century.**

#### ABOUT TAKAHE

- ❖ Takahe is **characterised as a flightless bird, nearly 50 centimetres in size.**
- ❖ **With an average length of around two feet and weighing 2.7 kg in males and 2.3 kg in females, the takahē is the largest living member of family Rallidae.**
- ❖ **They have been an intrinsic part of New Zealand's ecosystem since the prehistoric Pleistocene era, as evidenced by fossil remains.**
- ❖ **Characteristics –**
  - ✓ **blue feathers on their bodies, green wings, and a large red beak.**
  - ✓ **legs are pink, and they have a white undertail.**
- ❖ **The influx of introduced animals by European settlers, including stoats, cats, ferrets, and rats, decimated their population.**
- ❖ **They were officially declared extinct in 1898.**
- ❖ **However, their rediscovery in 1948 breathed new life into their existence, and their numbers have been steadily growing since then.**
- ❖ IUCN status - **Endangered**

## 8. POLICY AND PROGRAMME

### 8.1 PRADHAN MANTRI SCHOOLS FOR RISING INDIA (PM-SHRI) SCHEME

- ❖ PM recently released the **first instalment** of funds under the **PM SHRI Scheme**.

#### ABOUT PRADHAN MANTRI SCHOOLS FOR RISING INDIA (PM-SHRI) SCHEME

- ❖ It is a **centrally sponsored scheme** by Government of India.
- ❖ This initiative is **intended to develop more than 14500 PM SHRI Schools** managed by **Central government/State/UT Government/local bodies** including **KVS and NVS**.
- ❖ It **envisages a school in which every student feels welcomed and cared for**, where a **safe and stimulating learning environment exists**, where a **wide range of learning experiences are offered**, and where **good physical infrastructure and appropriate resources conducive to learning are available to all students**.
- ❖ **More than 20 lakh students are expected to be the direct beneficiaries** of the scheme.
- ❖ The scheme will **also promote understanding of various dimensions of Quality of school education and inform Policy, Practice and Implementation**.
- ❖ The Scheme is proposed to be **implemented over a period of 5 years w.e.f. 2022-23 to 2026-27**.
- ❖ The **learning from these schools will be scaled up to other schools in the country**.
- ❖ It will nurture students in a way that they become engaged, productive, and contributing citizens for building an **equitable, inclusive, and plural society as envisaged by the National Education Policy 2020**.

### 8.2 GOBARDHAN PORTAL

- ❖ **Over 1,200 biogas plants**, including 320 compressed biogas (CBG) units and 892 conventional plants **across 450 districts**, have registered on the **Gobardhan portal** since it was launched in June.
- ❖ The Gobardhan initiative is **aimed at creating a conducive environment for the biogas and CBG sector**.
- ❖ The portal was initiated to **streamline the registration process for operational, under-construction, and planned biogas or CBG plants across the country**.
- ❖ It allows **any government, cooperative or private entity operating or intending to set up a Biogas/CBG/Bio-CNG plant in India** to obtain a **registration number by enrolling in the portal**.
- ❖ The portal has been developed by the **Department of Drinking Water and Sanitation**.
- ❖ It **serves as a centralized repository for assessing investment and participation** in the **Biogas/CBG (Compressed Biogas) sector at a pan-India level**.

#### ABOUT GOBARDHAN SCHEME

- ❖ **Galvanizing Organic Bio-Agro Resources Dhan** is a **crucial umbrella initiative launched** in 2018 as a national priority project **under the Swachh Bharat Mission Grameen-Phase II program**.
- ❖ It aims to **generate wealth and energy** by converting **cattle dung, agricultural residue, and other organic waste into Biogas, CBG and bio-fertilizers**.
- ❖ It **adopts a whole-of-government approach** and aims to **convert waste into wealth, thereby promoting a circular economy**.
- ❖ The **Department of Drinking Water and Sanitation under Ministry of Jal Shakti** is the **nodal office**.

### 8.3 ULLAS INITIATIVE

- ❖ The **logo, slogan-Jan Jan Sakshar and mobile application of ULLAS** was launched recently.
- ❖ **ULLAS mobile application** marks a **significant milestone in harnessing the potential of technology** to facilitate **widespread access to basic literacy**.
- ❖ The app is **available both on android and iOS**.
- ❖ It will serve as a **digital gateway for learners to engage in diverse learning resources** through the **DIKSHA portal of NCERT**.



- ❖ The app can be used for registration of learners and volunteers either through self-registration or by surveyors.
- ❖ It also fosters a culture of continuous learning and knowledge-sharing in communities across India.

#### ABOUT ULLAS INITIATIVE

- ❖ The **ULLAS (Understanding Lifelong Learning for All in Society)** initiative is poised to revolutionise education and literacy across the nation, by fostering a learning ecosystem that reaches every individual, bridging the gaps in basic literacy and critical lifeskills.
- ❖ It imparts basic education, digital and financial literacy and critical life skills to citizens aged 15 and above who lost on the opportunity to go to school.
- ❖ It is being implemented through volunteerism.
- ❖ Slogan of the Initiative: ULLAS: Nav Bharat Saksharta Karyakram.

### 8.4 PM SVANIDHI

- ❖ The **Union Housing and Urban Affairs Ministry** has set a new target for its loan scheme for street vendors — **63 lakh new loans in less than six months till December 2023.**
- ❖ New Target has been segregated into-
  - ✓ **60,99,000 first-term loans** (up to Rs 10,000 each) to beneficiaries in big states,
  - ✓ **34,990** such loans in small states and UTs, and
  - ✓ **1,66,200 loans** in hill states of Himachal Pradesh and Uttarakhand and the Northeast.
- ❖ Ministry has also set the target of **22.63 lakh beneficiaries for second-term loans**, which are up to Rs 20,000 each and will be given to those who have paid off the first loans, and **2.93 lakh for third-term loans** — up to Rs 50,000 given to those who have paid the second.

#### ABOUT PM SVANIDHI

- ❖ The **Pradhan Mantri Street Vendors Atmanirbhar Nidhi (PM SVANidhi)** was launched during the Covid-19 pandemic and the resultant lockdown.
- ❖ It is a **micro credit scheme**, facilitating a **working capital collateral free loan of ₹10,000**, with subsequent loans of **₹20,000 and ₹50,000 with 7% interest subsidy.**
- ❖ The government has **already disbursed 50 lakh loans to 39 lakh beneficiaries in the three years since the scheme's launch in 2020.**
- ❖ The Scheme is **available for beneficiaries belonging to only those States/UTs which have notified Rules and Scheme under Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014.**
- ❖ The scheme incentivizes **digital transactions by vendors through cash back facility.**
- ❖ Recently the lending period was **extended till December 2024.**

The number of street vendors in the country is not known, but is estimated to be around 2 crore.

### 8.5 SAHAKAAR 22

- ❖ Union Minister of Cooperation recently listed **several initiatives undertaken by the National Cooperative Development Corporation (NCDC) under its Sahakar 22 initiative.**
  - ✓ **NCDC had launched Sahakar- 22 in FY 2017-18 to achieve the Mission of New India through Cooperatives.**
- ❖ Under SAHAKAAR 22, NCDC launched-
  - ✓ **FOCUS 222** aimed at **assisting Cooperatives in 222 Districts including 117 Aspirational Districts** (identified by NITI Aayog).
  - ✓ **PACS HUB** – Transformation of PACS and other Coops as Apna Kisan Resource Centers
  - ✓ **AENEC – Act East and North East Cooperatives**
  - ✓ **CEMtC** – Centres of Excellence to Market through Cooperatives and
  - ✓ **SAHAKAR PRAGYA** – Capacity Development through **Laxmanrao Inamdar National Academy for Cooperative Research Development (LINAC).**

## 8.6 MASI PORTAL

- ❖ **National Commission for Protection of Child Rights (NCPCR)** has developed an application 'MASI' - **Monitoring App for Seamless Inspection** for real time monitoring of the **Child Care Institutions (CCIs)** and their inspection mechanism across the country.
- ❖ 'MASI' enables unified inspections by **Child Welfare Committees (CWCs), State Inspection Committees, District Inspection Committees, Members of Juvenile Justice Boards (JJBs) and State Commissions for Protection of Child Rights (SCPCRs)** as laid down under the **Juvenile Justice Act, 2015 (as amended in 2021)**.
- ❖ It serves as a **single platform for inspections of all CCIs across the country**, enabling any of the above-stated authorities to conduct unified inspections.
- ❖ The application is linked to a monitoring portal, where **automatic reports are generated, ensuring real-time updates on the status of CCIs**.
- ❖ **Regular follow-ups** are conducted to ensure compliance with the Juvenile Justice Act and its rules, both before and after the completion of inspection.

## 8.7 STUDY IN INDIA' PORTAL

- ❖ **Ministry of Education** recently launched the **Study In India (SII) portal** with a vision to **promote Indian education to foreign students** and **re-establish India as a global hub of education** by welcoming students from diverse backgrounds.
  - ✓ On the occasion, **students from Russia, Thailand, Japan, Ethiopia, Ecuador, Kazakhstan, and the Republic of Korea** who are **currently studying in India** presented souvenirs from their cultures as a token of respect to dignitaries.
- ❖ It is a **one-stop platform** that will **simplify international students' academic journey in India**.
- ❖ The portal will **provide comprehensive information about Indian Higher Education Institutions** and also **present information about academic facilities, research support, and related information**.
- ❖ It will also provide an **integrated one-stop solution for the student registration and visa application processes**.
- ❖ It will **illustrate academic programmes covering but not limited to undergraduate (UG), postgraduate (PG), and doctoral-level programmes** as well as **courses in Indian Knowledge systems like Yoga, Ayurveda, classical arts, etc.**
- ❖ It will have the **provision for students to apply in more than one institute or course of their choice**.

## 8.8 BHARATNET

- ❖ Cabinet has approved an **outlay of ₹1.39 lakh crore for BharatNet**, the **government's project for last-mile connectivity across 6.4 lakh villages in the country**.
- ❖ Around **1.94 lakh villages have been connected at present** and **rest of the villages are expected to be connected in the next 2.5 years**.
- ❖ **BBNL**, which is an arm of **State-run Bharat Sanchar Nigam (BSNL)** now, will be partnering with **village level entrepreneurs (VLEs)** to provide the connectivity.
  - ✓ A **VLE is a person responsible for managing and operating a Common Service Center (CSC)** under the CSC scheme.
  - ✓ The **model to take fibre to the home with the help of a local entrepreneur** was finalised after **successful completion of a pilot project**.
  - ✓ **Around 3,800 entrepreneurs were involved in the pilot project** that was carried out for **60,000 villages that provided 3.51 lakh broadband connections**.
  - ✓ **Average data consumption per household** has been recorded to the tune of **175 gigabyte per month**.
- ❖ The project is **being rolled out on 50 per cent revenue share between BBNL and VLE** and the **monthly broadband plan price starts from ₹399 and goes up to ₹799 with a minimum speed of 30mbps**.

### ABOUT BHARATNET

- ❖ **BharatNet is one of the biggest rural telecom projects in the world**, implemented in a phased manner to all 2.5 lakh gram panchayats (GPs) in the country for last-mile broadband connectivity.
  - ❖ The project was first approved by the Cabinet in October 2011 and is being executed by Bharat Broadband Network (BBNL), as a special purpose vehicle (SPV).
  - ❖ **Phase-II was approved in 2017** and funding for the project in both phases has been ₹42,068 crore.
  - ❖ **It is funded by Universal Service Obligation Fund (USOF).**
    - ✓ USOF is the **pool of funds generated by a 5% Universal Service Levy** that is charged upon all the telecom fund operators on their Adjusted Gross Revenue (AGR).
- There are 37 lakh route kilometers (rkm) of optical fibre cable (OFC) laid in the country out of which BBNL has laid 7.7 lakh km OFC

## 8.9 AMRIT BHARAT STATION SCHEME

- ❖ **PM Modi laid the foundation stone for the redevelopment works of 508 railway stations** in the country through video conferencing under the Amrit Bharat Station Scheme.
- ❖ Redeveloped at a cost of more than Rs 24,470 crores, these 508 stations are spread across 27 states and union territories.
- ❖ **Master Plans** were being prepared for the development of these stations as 'City Centres', with proper integration of both sides of the city.
- ❖ This integrated approach is driven by the holistic vision of the overall urban development of the city, centred around the railway station.
- ❖ These stations will have better seating on platforms, upgraded waiting rooms and free Wi-Fi amongst other things.
- ❖ The redevelopment will provide modern passenger amenities along with ensuring well-designed traffic circulation, inter-modal integration, and signage for the guidance of passengers.
- ❖ The design of the station buildings will be inspired by local culture, heritage, and architecture.

## 8.10 HIGH-PRICE DAY AHEAD MARKET AND SURPLUS POWER PORTAL (PUSHP) PORTAL

- ❖ The **National Power Committee (NPC)** has asked States to provide suggestions for offering incentives to buyers and sellers on the surplus power portal, PUSHp, to encourage wider participation, which has been found missing.

### ABOUT PUSHP PORTAL

- ❖ The portal is a **national-level generating capacity utilisation mechanism** to help States, which are facing power cuts, buy power.
- ❖ The tariffs are regulated and determined by the concerned regulatory commissions.
- ❖ PUSHp portal, which was launched in March 2023 and began power transactions on April 3, has seen 17 States utilising it.
- ❖ So far, 14 requests have been processed and the power has been reallocated to the new beneficiaries.
- ❖ **Working**
  - ✓ DISCOMs have tied up long term PPAs (power purchase agreement) for power supply and have to pay fixed charges even when they do not schedule the power.
  - ✓ The DISCOMs will be able to indicate their surplus power in block times / days / months on portal.
  - ✓ DISCOMs in need of power will be able to requisition the surplus power.
  - ✓ The new buyer pays both variable charge (VC) and fixed cost (FC) as determined by Regulators.

### BENEFITS

- ❖ This will reduce the fixed cost burden on DISCOMs, and enable the available generation capacity to be utilized optimally.

### SHORTCOMINGS

- ❖ There is a **lack of participation** from the **States of northern region (NR), eastern region (ER)** and **limited requisition to avail the surplus power available on the portal from all regions.**

### 8.11 GOVERNMENT E-MARKETPLACE (GEM)

- ❖ Government e-Marketplace (GeM) commemorated its **7th Foundation Day** recently.
- ❖ Government e-Marketplace (GeM) is **India's online marketplace for public procurement.**
- ❖ Launched in **2016**, GeM **facilitates transparent and efficient procurement for government departments, organizations, and PSUs.**
- ❖ **Nodal Ministry- Ministry of Commerce and Industry.**
- ❖ The procurement of **goods and services by Ministries and the Central Public Sector Enterprises (CPSEs) is mandatory for goods and services available on GeM.**
- ❖ Presently, the platform boasts an **impressive catalogue of over 2.75 lakh services spanning across more than 280 categories**, complemented by **more than 34 lakh products.**
- ❖ A hallmark of GeM's success lies in its **dedication to cost savings**, having enabled the **government to save over ₹45,000 crore since 2016.**

### 8.12 NATIONAL AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM (NAFIS)

- ❖ Union Home Minister congratulated the team of **National Automated Fingerprint Identification System (NAFIS)** for winning the **Gold Award** under the **Excellence in Government Process Reengineering for Digital Transformation Category-1** of the **Department of Administrative Reforms and Public Grievances (DARPG).**

#### ABOUT NAFIS

- ❖ The NAFIS project is a **country-wide searchable database of crime- and criminal-related fingerprints.**
- ❖ It was **conceptualized and managed by the NCRB at the Central Fingerprint Bureau (CFPB), New Delhi.**
- ❖ The web-based application functions as a **central information repository by consolidating fingerprint data from all states and Union Territories.**
- ❖ It assigns a **unique 10-digit National Fingerprint Number (NFN)** to each person arrested for a crime.
- ❖ This unique ID **will be used for the person's lifetime**, and **different crimes registered under different FIRs will be linked to the same NFN.**
- ❖ It enables **law enforcement agencies to upload, trace and retrieve information from the database 24x7 in real-time.**
- ❖ The **NAFIS maintains-**
  - ✓ **Ten Print data:** Images of a **person's palm and fingerprints**, as well as the **accompanying basic biographical data**, are **gathered from them by the police and immigration officials.**
  - ✓ **Latent data:** Impressions of fingers and palms found at crime scenes that have **not yet been solved**, which police can check.

**Madhya Pradesh became the first state in the nation to use NAFIS to identify a deceased individual.**

**The first ever Fingerprint Bureau in the world was established at Writer's Building at Calcutta (now Kolkata) in the year 1897.**

### 8.13 PRADHAN MANTRI BHARTIYA JAN AUSHADHI KENDRAS

- ❖ Railways Ministry will establish **Pradhan Mantri Bhartiya Janaushadhi Kendras** at railway stations across the country.
- ❖ It aims to **make available quality medicines to all at an affordable price.**
- ❖ The Ministry has **identified the list of fifty stations for the pilot project.**
- ❖ These Kendra's will be set up and operated by Licensees **at locations identified by Railway Divisions.**

#### ABOUT PRADHAN MANTRI BHARTIYA JAN AUSHADHI PARIYOJANA

- ❖ **Pradhan Mantri Bhartiya Jan Aushadhi Kendras** are set up under **Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana.**

- ❖ It was launched by Ministry of Chemicals and Fertilizer
- ❖ **Objective** - To provide quality medicines at affordable prices to all through dedicated outlets called PMBJAK.
- ❖ Pharmaceutical & Medical Devices Bureau of India (PMBI) is implementing agency.

#### 8.14 DBT IN NATIONAL APPRENTICESHIP PROMOTION SCHEME

- ❖ Union minister for **Education and Skill Development & Entrepreneurship**, recently launched the **direct benefit transfer (DBT)** in the **National Apprenticeship Promotion Scheme (NAPS)**.
- ❖ An amount of approximately **Rs 15 crore** was disbursed to one lakh apprentices.

#### ABOUT NATIONAL APPRENTICESHIP PROMOTION SCHEME

- ❖ It was launched in **2016**.
- ❖ NAPS had replaced **Apprentice Protsahan Yojna**.
- ❖ A total of **25 lakh youth** have been engaged as apprentices up to July 31, 2023.
- ❖ Under the NAPS, the Centre reimburses **25%** of the prescribed stipend subject to a maximum of **Rs 1500 per month** per apprentice to the employer.
- ❖ **Also government** reimburses the basic training cost up to **Rs. 7,500** per apprentice.
- ❖ States like **Gujarat, Maharashtra, Haryana, Uttar Pradesh, Tamil Nadu, Karnataka** and **Telangana** have emerged as the top apprenticeship providers in the country with more than **0.9 million** trained youth in the age group of **23-26 years**.

#### 8.15 VISHWAKARMA YOJANA

- ❖ The Union Cabinet recently approved the **Rs 13,000-crore Vishwakarma Yojana**, an ambitious scheme to support those engaged in traditional skills.
- ❖ Under the scheme, **craftsmen** will be provided **credit support** of up to **Rs 1 lakh (first tranche)** and **Rs 2 lakh (second tranche)** with a concessional interest rate of **5%**.
- ❖ Vishwakarma Yojana will benefit **30 lakh craftsmen families** over **five years** from **FY24 to FY28**.
- ❖ Under the scheme, **artisans and craftsmen** will be provided **recognition** through **PM Vishwakarma certificate and ID card**.
- ❖ **Artisans and craftsmen** will also be provided **skill upgradation, tool kit incentive, incentive for digital transactions and marketing support**.
- ❖ Initially, **18 traditional trades** will be covered including **carpenter (Suthar); boat maker; armourer; blacksmith; hammer and tool kit maker; locksmith; goldsmith; potter (Kumhaar); sculptor, stone breaker; cobbler; mason; basket/mat/broom maker/coir weaver; doll and toy maker (traditional); barber; garland maker; washerman; tailor ; and fishing net maker**.
- ❖ The scheme also aims at **improving the quality**, as well as the reach of products and services of **artisans and craftsmen** and to ensure that **Vishwakarmas** are integrated with the domestic and global value chains.

#### 8.16 PM E-BUS SEWA SCHEME

- ❖ The Union Cabinet recently approved a scheme to add **10,000 e-buses** to city bus services across the country, and to shore up urban infrastructure under green mobility initiatives with a focus on cities having no organised bus services.
  - ✓ An e-bus is any bus whose propulsion and accessory systems are powered exclusively by a zero-emissions electricity source.
- ❖ The **PM e-bus Sewa** scheme will have an estimated cost of **₹57,613 crore**, of which the Centre will provide **₹20,000 crore**.
- ❖ It will support bus operations for **10 years**.
- ❖ The scheme will be implemented in two segments-

- ✓ In **169 cities, 10,000 e-buses will be deployed** using a **public-private partnership (PPP) model**; **depot infrastructure will also be developed or upgraded to support the new e-buses**, including the **creation of behind-the-meter power infrastructure like substations.**
- ✓ in **181 other cities**, infrastructure will be **upgraded under the green urban mobility initiatives**. In these cities, initiatives will **focus on bus priority, infrastructure, multimodal interchange facilities, automated fare collection systems, and charging infrastructure.**
- ❖ Cities with a **population of three lakh and above will be covered under the scheme**, including all the **capital cities of Union Territories, and the northeastern and hill States.**
- ❖ Around **45,000 to 55,000 direct jobs are expected to be generated** via the scheme.
- ❖ **States or cities will be responsible for running the bus services and making payments to the bus operators.**
  - ✓ The **Central government will support these bus operations by providing subsidies to the extent specified in the scheme.**
- ❖ **Benefits**
  - ✓ This will **help reduce noise and air pollution in Indian cities and also curb carbon emissions.**
  - ✓ This scheme is **also expected to bring in economies of scale for the procurement of electric buses through aggregation.**

### 8.17 LAKHPATI DIDI SCHEME

- ❖ PM Modi recently announced the **Lakhpati Didi scheme** on the eve of Independence Day.
- ❖ Under this **skill training will be provided to two crore women** so that **they can earn at least Rs 1 lakh annually.**
- ❖ Under the scheme, women would be trained in **skills like plumbing, LED bulb making, and operating and repairing drones, among others.**

### 8.18 PM JAN DHAN YOJANA

- ❖ As per a Finance ministry release, **total number of Jan Dhan accounts in the country has crossed 50 crore-mark.**

#### OTHER STATS

- ❖ **56% of the accounts** belong to **women.**
- ❖ About **67% of these accounts** have been **opened in rural and semi-urban areas.**
- ❖ The **total deposits in these accounts are above Rs 2.03 lakh crore.**
- ❖ Around **34 crore RuPay cards** have been **issued with these accounts free of cost.**
- ❖ **Average balance** in PMJDY accounts is **Rs 4,076**
- ❖ **More than 5.5 crore** of these are **receiving Direct Benefit Transfer (DBT).**

#### ABOUT PRADHAN MANTRI JAN DHAN YOJANA

- ❖ The **National Mission on Financial Inclusion** -popularly known as **PMJDY** -was **launched on August 28, 2014.**
- ❖ It envisaged **universal access to banking facilities** with **at least one basic banking account** for every **household, financial literacy, access to credit, insurance and pension.**
- ❖ It offers following benefits-
  - ✓ a **bank account without the requirement of a minimum balance,**
  - ✓ **free of cost RuPay debit cards** with **in-built accidental insurance of Rs 2 lakh,** and
  - ✓ The holders of a RuPay Debit Card under the scheme can **also receive life cover insurance up to ₹30,000.**
  - ✓ an **overdraft facility of up to Rs 10,000 (but only available against one account per household).**

### 8.19 MERA BILL MERA ADHIKAAR SCHEME

- ❖ The government will launch the **'Mera Bill Mera Adhikar'** invoice incentive scheme.

- ❖ The scheme is aimed at motivating customers to ask for a bill every time they make purchases.
- ❖ It will be launched in the States of Assam, Gujarat and Haryana; and the UTs of Puducherry, Daman & Diu and Dadra & Nagar Haveli.
- ❖ Invoice incentive scheme allows to earn cash prizes on upload of GST invoices.
- ❖ Monthly and quarterly draw of lots will be made and winners will be eligible for cash reward prize beginning from ₹10,000 to up to ₹1 crore.
- ❖ Eligibility
  - ✓ All invoices issued by Goods and Services Tax (GST) registered suppliers to consumers will be eligible for the 'Mera Bill Mera Adhikar' scheme
  - ✓ The minimum purchase value for the invoice to be considered for lucky draw is ₹200 and individuals can upload a maximum of 25 invoices in a month from September 1.
- ❖ The 'Mera Bill Mera Adhikar' mobile app will be made available in both IOS and android platforms.
- ❖ The invoice uploaded on the app should have the GSTIN of the seller, invoice number, amount paid and tax amount.

## 8.20 TELE LAW 2.0

- ❖ The Tele-Law 2.0 initiative was launched recently under Tele-Law program of the Department of Justice, Ministry of Law & Justice.
- ❖ This version entails the fusion of Tele-Law Services with Nyaya Bandhu pro bono legal services.
  - ✓ This merger will help to further enhance citizen accessibility to legal aid.

### ABOUT TELE –LAW SCHEME

- ❖ Tele-Law means the use of communications and information technology for the delivery of legal information and advice.
  - ✓ This e-interaction between lawyers and people would be through the video-conferencing infrastructure available at the CSCs.
- ❖ Department of Justice had partnered with NALSA and CSC e-Governance Service India Limited for mainstreaming legal aid to the marginalised communities through Common Services Center (CSC).
- ❖ The program is operating under the DISHA Scheme.
- ❖ It was launched in 2017.
- ❖ Launched as a pilot programme with 1,800 CSCs in 11 states, the programme coverage has scaled up to 2.5 lakh CSCs covering 765 districts across 36 states/UTs in the country.
- ❖ The service is free for those who are eligible for free legal Aid as mentioned under Section 12 of Legal Services Authority Act, 1987. For all others a nominal fee of Rs 30 is charged.
- ❖ A dedicated web portal on Tele-Law is available in 22 regional languages.
- ❖ The number of beneficiaries of the Tele-Law Scheme have reached 50 Lakhs.
  - ✓ The overarching goal of the Tele-Law program is to reach one crore beneficiaries well before 2026.

“Designing Innovative Solutions for Holistic Access to Justice” (DISHA) Scheme was launched for a period of five years 2021-2026.

It was launched in order to provide a comprehensive, holistic, integrated and systemic solution on access to justice at pan India level.

## 8.21 PROMOTION OF RESEARCH & INNOVATION IN PHARMA-MEDTECH SECTOR (PRIP) SCHEME

- ❖ The Union Cabinet has approved the Promotion of Research & Innovation in Pharma-MedTech sector (PRIP) scheme with an outlay of ₹5,000 crore for five years, from 2023-24 to 2027-28.
- ❖ The objective of the PRIP scheme is to transform the Indian Pharma MedTech sector from cost-based competitiveness to innovation-based growth by strengthening the research infrastructure in the country.
- ❖ Ministry- Minister for Chemicals and Fertilizers
- ❖ The scheme will be in two parts:

- ✓ preparing capacity in PSUs;
- ✓ provide support to private sector for research.
- ❖ In the first components- **National Institutes of Pharmaceutical, Education & Research (NIPERs)** in Mohali, Ahmedabad, Hyderabad, Rae Bareli, Guwahati, Hajipur and Kolkata will focus on research across categories like anti-viral and anti-bacterial drug discovery and development, medical device making, R&D in bulk drugs, novel drug delivery system, phytopharmaceuticals and biological therapeutics.
  - ✓ ₹700 crore fund is allocated to this part.
- ❖ The second component, targeting the private sector includes development of new chemical entity (or molecular entity), complex generics and biosimilars, precision medicines (used in stem cell technology and gene therapy), medical devices (leveraging Artificial Intelligence and Machine Learning), orphan drugs (including rare diseases) and research on anti-microbial resistance.
  - ✓ Another ₹4,250 crore will be allocated under this component.

## 8.22 GREAT SCHEME

- ❖ The **Startup Guidelines for Technical Textiles - Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT)** has been approved.
- ❖ The guidelines focus on supporting individuals and companies to translate prototypes to technologies & products, including commercialization.
- ❖ It will be providing grant-in-aid of up to Rs 50 lakh for up to a period of 18 months.
- ❖ The textile ministry will additionally provide 10 per cent of total grant-in-aid to incubators.
- ❖ A minimum investment of 10 per cent of the funding from the incubatee in two equal instalments is mandated.
- ❖ Moreover, the textiles ministry has also given a nod to 26 institutes for upgrading their laboratory infrastructure and training of trainers in the application areas of technical textiles.

### ABOUT TECHNICAL TEXTILES

- ❖ **Technical textiles** are defined as textile materials and products used primarily for their technical performance and functional properties rather than their aesthetic or decorative characteristics.
- ❖ Depending on the product characteristics, functional requirements and end-use applications the highly diversified range of technical textile are grouped into 12 segments. These are-
  - ✓ **Agrotech** (agro textiles)
  - ✓ **Buildtech** (construction textiles)
  - ✓ **Clothtech** (clothing textiles)
  - ✓ **Geotech** (geo textiles)
  - ✓ **Homotech** (home textiles)
  - ✓ **Indutech** (industrial textiles)
  - ✓ **Meditech** (medical textiles)
  - ✓ **Mobiltech** (automotive textiles)
  - ✓ **Oekotech** (Ecological protection textiles)
  - ✓ **Packtech** (packaging textiles)
  - ✓ **Protech** (protective textiles)
  - ✓ **Sportech** (sports textiles)



## 9. INDEX AND REPORTS

### 9.1 PLASTIC OVERSHOOT DAY REPORT

- ❖ The **2023 Plastic Overshoot Day Report** was recently released by the **Swiss-based research consultancy Earth Action**.
  - ✓ **Plastic Overshoot Day** represents **the day in a calendar year when humanity produces and consumes more plastic than the world's capacity to effectively manage and recycle**.
  - ✓ It is **based on country's Mismanaged Waste Index (MWI) i.e., the ratio of the mismanaged waste and the total waste**.
- ❖ **For 2023, Plastic Overshoot Day landed on July 28<sup>th</sup>**.
- ❖ The report reveals that **52% of the world's mismanaged plastic waste comes from 12 countries**, including **India, China, Brazil, Indonesia, Thailand, Russia, Mexico, the United States, Saudi Arabia, the Democratic Republic of Congo, Iran, and Kazakhstan**.
- ❖ It states that nearly **68,642,999 tonnes of additional plastic waste will end up in nature this year**.
- ❖ **India specific findings**
  - ✓ According to EA's Mismanaged Waste Index (MWI), **India ranks fourth, with 98.55% of its generated waste being mismanaged**.
  - ✓ India is categorized as **'The Waste Sponges'**. It refers to a low consumption yet a high level of plastic pollution.
  - ✓ **Annual per capita plastic consumption is 5.3 kg/capita/year**.
    - This is significantly lower than the **global average of 20.9 kg**.

## 10. INTERNATIONAL, SUMMITS

### 10.1 AYUSH VISA

- ❖ **Ministry of Home Affairs has incorporated a new visa category, "Ayush Visa" for foreign nationals seeking medical treatment like therapeutic care, wellness and yoga in India**.
- ❖ **Ayush Visa aims to fulfill the need for introduction of a special visa scheme for foreigners visiting India for treatment under Ayush systems or Indian systems of medicine per say**.
- ❖ **A new chapter i.e. chapter 11A – Ayush Visa has been incorporated after Chapter 11 - Medical visa of the Visa Manual, which deals with treatment under the Indian systems of medicine and accordingly necessary amendments has been made in various chapters of the Visa Manual, 2019**.
- ❖ **PM Modi had announced creation of Ayush Visa in 2022 seeking to make it a part of India's roadmap for the Heal in India initiative of the government**.
- ❖ **Ministry of Ayush and the Ministry of Health & Family Welfare are collaborating to develop a one stop Heal in India portal to promote India as a Medical tourism destination of the world**.

### 10.2 CBI ACADEMY AND IGAN

- ❖ **The Central Bureau of Investigation (CBI) Academy joined the Interpol Global Academy Network at a virtual event**.
- ❖ **IGAN was launched in 2019**.
- ❖ **The Network has members in all regions and supports academic collaboration amongst Law Enforcement Training Institution across the globe**.

#### ABOUT CBI ACADEMY

- ❖ **The CBI Academy had become the 10<sup>th</sup> member of Interpol Global Academy Network**.

- ❖ According to the agency, over the years, it has emerged as a major police institution of the country and South Asia.
- ❖ Since 2005, it has imparted training to over 50,000 police officers, including around 1,432 foreign nationals from SAARC nations, Africa, South East Asia, Central Asia and West-Asia.
- ❖ Several programmes have been conducted in collaboration with foreign agencies such as U.S. Department of Homeland Security, Federal Bureau of Investigation, French Embassy, National Cyber Crime Unit and National Crime Agency (United Kingdom), Interpol and Royal Canadian Mounted Police (Canada).
- ❖ CBI is National Central Bureau of Interpol for India as well as a Nodal Agency for Transnational Organised Crimes, Anti-Corruption Crimes, Bank Fraud Cases and Cyber Crimes.

### 10.3 ECOWAS GROUPING

- ❖ The regional bloc ECOWAS or the Economic Community of West African States has been playing an active role in Niger amid turmoil

#### ABOUT ECOWAS GROUPING

- ❖ Also known as CEDEAO in French, the regional group was established in 1975 through the Lagos Treaty – with a mandate of promoting economic integration among its members.
- ❖ Today, ECOWAS has 15 members: Benin, Burkina Faso, Cape Verde, Cote d’Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo.
- ❖ Around 400 million people live in this region.
- ❖ Headquarters: Abuja, Nigeria.
- ❖ ECOWAS’ larger aims are to have a single common currency and create a single, large trading bloc in areas of industry, transport, telecommunications, energy, financial issues, and social and cultural matters.
- ❖ Organisation structure includes the Chairman of the Authority of Heads of State and Government.
  - ✓ The Chairman is the current Head of State and Government and is appointed by other Heads of State and Government to oversee its affairs for one year.

### 10.4 RAISINA DIALOGUE

- ❖ Foreign Secretary recently told a Parliament committee that the Raisina Dialogue is now among the most significant global level think tank events in the world.

#### ABOUT RAISINA DIALOGUE

- ❖ Raisina Dialogue is an annual conference on geopolitics and geoeconomics addressing issues facing the global community.
- ❖ It derives its name from Raisina Hill, the seat of Indian government.
- ❖ Since 2016, this annual event is held by the Observer Research Foundation (ORF), which is an independent think tank in collaboration with Ministry of External Affairs.
- ❖ The Dialogue is structured as a multi-stakeholder, cross-sectoral discussion involving heads of state, cabinet ministers, and local government officials, who are joined by thought leaders from the private sector, media, and academia.
- ❖ The 8th Edition was held in March 2023 under the theme- “Provocation, Uncertainty, Turbulence : Lighthouse in the tempest”
  - ✓ It saw the presence of the Prime Minister of Italy and at least 30 foreign ministers.

The other three flagship annual conferences, in addition to Raisina Dialogue, supported by the foreign ministry are-

- ❖ Asia Economic Dialogue (in partnership with Pune International Centre),
- ❖ Global Technology Summit (in partnership with Carnegie India) and
- ❖ Indian Ocean Conference (in partnership with India Foundation).

## 10.5 UNFPA PROJECT GETS EXPERT SUPPORT

- ❖ A project of the **United Nations Population Fund (UNFPA)** for **gender sensitivity in Rajasthan** has received support from the experts working for the **elimination of customs promoting patriarchy**.

### ABOUT UNFPA

- ❖ UNFPA is the **United Nations sexual and reproductive health agency**.
- ❖ It is a **subsidiary organ of the UN General Assembly** and its **mandate is established by The UN Economic and Social Council (ECOSOC)**.
- ❖ **Mission-** to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled.
- ❖ **Motto-** "Ensuring rights and choices for all."
- ❖ Headquarters: **New York, USA**
- ❖ The agency began operating in **1969 as the United Nations Fund for Population Activities**.
- ❖ In **1987**, it was **officially renamed the United Nations Population Fund** but the **original abbreviation, 'UNFPA'** for the United Nations Fund for Population Activities **was retained**.
- ❖ UNFPA is **entirely supported by voluntary contributions of donor governments, intergovernmental organizations, the private sector and foundations and individuals, not by the United Nations regular budget**.
- ❖ Major Publication- **State of World Population Report**
- ❖ In 2018, **UNFPA launched efforts to achieve three transformative results, also known as the three zeros, by 2030. These include-**
  - ✓ **Zero unmet need for family planning.**
  - ✓ **Zero preventable maternal death.**
  - ✓ **Zero gender-based violence and harmful practices.**

## 10.6 WORLD HUMANITARIAN DAY- AUGUST 19TH

- ❖ **World Humanitarian Day** is observed annually on **August 19<sup>th</sup>**.
- ❖ WHD is a **campaign by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA)**.
- ❖ The **theme** for World Humanitarian Day 2023 is '**No matter what**'.
- ❖ **Brief History**
  - ✓ **On 19 August 2003, a bomb attack on the Canal Hotel in Baghdad, Iraq, killed 22 humanitarian aid workers, including the UN Special Representative of the Secretary-General for Iraq, Sergio Vieira de Mello.**
  - ✓ **In 2008, the United Nations General Assembly adopted a resolution designating 19 August as World Humanitarian Day (WHD).**

## 10.7 WORLD PHOTOGRAPHY DAY- AUGUST 19TH

- ❖ **World Photography Day** is observed annually on **August 19<sup>th</sup>**.
- ❖ It commemorates the **invention of the daguerreotype, a photographic process developed by Frenchman Louis Daguerre in 1837 that marked a significant milestone in the history of photography**.
- ❖ The **World Photography Day 2023 theme** is "**LANDSCAPES**".

## 10.8 THE SPIRIT OF CAMP DAVID

- ❖ The **first-ever trilateral summit** between the **three countries- USA, Japan and South Korea** was held in the **US**.
- ❖ A joint statement titled '**The Spirit of Camp David**' expressed **support for their collective alliance**.
- ❖ They issued a sharply worded joint statement **about Beijing's actions in the South China Sea and nuclear threats from North Korea**.

- ❖ The three countries also reiterated their commitment to peace and stability in the Taiwan Strait.
- ❖ The three countries will agree to "significant steps" to enhance security cooperation among them.

## 10.9 COMMONWEALTH PARLIAMENTARY ASSOCIATION

- ❖ The ninth Commonwealth Parliamentary Association (CPA) India region conference was organized in Udaipur, Rajasthan.
- ❖ The theme of the two-day regional conference of the CPA is "Strengthening Democracy and good governance in digital age".
- ❖ The CPA India Region comprises of a total of 31 Legislatures, from Assam in the East to the Gujarat in the West.
  - ✓ After the Africa Region, India has the largest number of member Branches of the CPA.

### ABOUT COMMONWEALTH PARLIAMENTARY ASSOCIATION

- ❖ It is an association to serve the Parliamentarians of the Commonwealth Countries by providing machinery for regular consultation and exchange of ideas and information among members of Commonwealth Parliaments.
- ❖ The CPA was founded in 1911 as the Empire Parliamentary Association (EPA) and the United Kingdom Branch administered its affairs.
- ❖ Evolving with the Commonwealth the CPA in 1948 adopted its present name and changed its rules to enable all member Branches to participate in the Association's management and established a separate Secretariat, the Commonwealth Secretariat to manage and perform its affairs.
- ❖ HQ- London.
- ❖ The CPA is the only Commonwealth organisation to represent national, state, provincial and territorial Parliaments and Legislatures.
- ❖ The Association is made up of over 180 Legislatures (or Branches) divided up between nine geographic regions of the Commonwealth. These regions are –Africa; Asia; Australia; British Islands and Mediterranean; Canada; Caribbean, Americas and Atlantic; India; Pacific; South-East Asia.
  - ✓ India is a member.

## 10.10 AU SUSPENDS NIGER OVER COUP

- ❖ The African Union has suspended Niger's membership in the wake of the military coup.
- ❖ Earlier The Economic Community of West African States (ECOWAS) had also imposed sanctions on the country.

### ABOUT AFRICAN UNION

- ❖ The African Union (AU) is a continental body made up of the countries of the African Continent.
- ❖ It was officially launched in 2002 in Durban, South Africa and replaced the Organization of African Unity (OAU), which was founded in 1963.
- ❖ The African Union is made up of 55 member states.
- ❖ Headquarters: Addis Ababa, Ethiopia
- ❖ Aim- To promote unity, cooperation, and development among African nations while advancing the continent's interests on the global stage.
- ❖ The highest decision-making body is the Assembly, which consists of the heads of state and government of member countries.
- ❖ AU Member States are divided into five geographic regions which were defined by the OAU in 1976.

## 10.11 GULF COOPERATION COUNCIL

- ❖ Gulf Cooperation Council (GCC) members have approached India to restart negotiations on the free trade agreement.

- ❖ India had GCC had agreed to explore an FTA in 2004 but after two rounds of discussions in 2006 and 2008, the process was abandoned.
- ❖ The council is the largest trading bloc of India.

UAE already has an FTA with India which came into force on May 1, 2022.

It is the second largest export market for India and fourth in the list of countries where imports come from.

#### ABOUT GULF COOPERATION COUNCIL

- ❖ GCC is a political and economic union of six countries in the Gulf region — Saudi Arabia, the UAE, Qatar, Kuwait, Oman and Bahrain.
- ❖ Established in 1981 in Riyadh (Saudi Arabia), the GCC promotes economic, security, cultural and social cooperation between the six states.
- ❖ HQ- Riyadh
- ❖ Official language- Arabic.
- ❖ It holds a summit every year to discuss cooperation and regional affairs.
- ❖ The GCC consists of the Supreme Council, the Ministerial Council and the Secretariat General.

## 11. PLACES IN NEWS

### 11.1 COCOS ISLANDS

- ❖ Two Indian military aircrafts recently visited Australia's strategic Cocos (Keeling) Islands (CKI).
- ❖ CKI is an Australian external territory located in the Indian Ocean, approximately 3,000 km north-west of Perth in western Australia, and comprises two coral atolls made up of 27 smaller islands.

Note:

- ❖ Not to be confused with Coco islands (under Myanmar) and Coco channel near Andaman Islands.

### 11.2 AMHARA

- ❖ Ethiopian government has declared a state of emergency in its second-largest region, Amhara, following days of clashes between the military and local Fano militiamen.
- ❖ The declaration gives the government the power to ban public gatherings, make arrests without warrants, and to impose curfews.

### 11.3 GAS FIELDS IN NEWS

- ❖ Arash-Dorra Gas Field
  - ✓ This offshore gas field, located in the Persian Gulf, is known as Arash in Iran and Dorra in Kuwait and Saudi Arabia.
- ❖ Karish and Qana gas fields
  - ✓ Karash is a confirmed gas field and Qana is a prospective gas field, located in Mediterranean Sea.
  - ✓ Israel has secured full rights to Karish, while Lebanon's rights to Qana were also recognised.
  - ✓ Lebanon agreed for some potential revenue from Qana, part of which lies within Israel's waters, to go to Israel.

### 11.4 ECUADOR

- ❖ Ecuador declared a state of emergency after the assassination of a popular presidential candidate.
- ❖ It is situated in Western South America.
- ❖ It has borders with Colombia and Peru and is surrounded by the Pacific Ocean to the west.

- ❖ The **Galápagos Islands**, the first natural site to be inscribed on the World Heritage List in 1978, come under its jurisdiction.

### 11.5 MURMANSK PORT

- ❖ **Indian products** accounts for **35% of total cargo handled by Russia's Arctic Murmansk port** in the first half of 2023.
- ❖ Murmansk is located **about 2,000 km northwest of Moscow**.
- ❖ It is located **on the Kola peninsula at Barents Sea coast**.
- ❖ It is the **main northern gateway of Russia and a transshipment hub**.

### 11.6 LAKE TITICACA

- ❖ Lake Titicaca's **water levels have fallen to historic lows** in recent times.
- ❖ The massive body of water is at a **breath-sapping altitude of 3800m above sea level in the Andes** mountain range on the **border between Bolivia and Peru**.
- ❖ It is the **world's highest navigable body of water and largest freshwater lake in South America**.

### 11.7 SULINA CHANNEL

- ❖ After Russia broke away from **The Black Sea Grain deal**, a '**new**' trade route via the **Sulina Channel** is an **available alternative for Ukraine**.
- ❖ It is a **63 km long distributary of the Danube**, connecting major **Ukrainian ports on the river to the Black Sea**, lying **completely within the borders of Romania**, a **NATO member**.
- ❖ Near Tulcea, Romania, the **Danube river begins to spread out into its delta** which has **three major channels – Chilia, Sulina and St George**.
- ❖ Of these, the **Sulina Channel**, which has been **dredged and straightened**, is the **only one deep and wide enough for freight transport**.

### 11.8 LIKARU-MIG LA-FUKCHE ROAD

- ❖ Border Roads Organisation (BRO) has started the **construction of 64-km long Likaru-Mig La-Fukche road** close to **Hanle in Eastern Ladakh's Demchok sector**.
- ❖ Once completed, it **will be the world's highest motorable road** at a height of **19,400 ft in Mig La**.
- ❖ Reportedly, an **all-woman unit of the BRO began the construction of the Likaru-Mig La-Fukche road**. A **five-member team of women combat engineers** headed by **Colonel Ponung Doming** is supervising the road construction.
- ❖ Currently, **Umling La in Ladakh at a height of 19,024 ft** holds the **record of being the highest motorable road in the world**.
  - ✓ It is a **52-km road that connects Chishumle to Demchok**, which is **right on the Line of Actual Control (LAC)**, and a **friction point between India and China**.

### 11.9 YASUNI NATIONAL PARK

- ❖ In a **historic decision**, Ecuadorians voted **against the oil drilling of a protected area** in the **Amazon** that's home to **two uncontacted tribes and serves as a biodiversity hotspot**.
- ❖ Around **six in ten Ecuadorians rejected the oil exploration in Block 44**, situated within **Yasuni National Park**, one of the **world's most biodiverse regions**.
- ❖ The **area is inhabited by the Tagaeri and Tarmenani**, who live in **self-isolation**.
- ❖ In **1989**, **Yasuni was designated a world biosphere reserve by the UNESCO**.

- ❖ Encompassing a **surface area of over 1 million hectares (2.5 million acres)**, it **boasts 610 species of birds, 139 species of amphibians, and 121 species of reptiles.**

### 11.10 PANAMA CANAL

- ❖ **More than 200 ships are stuck on the either side of Panama Canal** as due to the impact of climate change, the water levels have shrunk, leading to a traffic jam near it.
- ❖ The **canal relies on rainwater to replenish its sources**, but a **lack of rain makes it difficult for ships to cross.**
- ❖ **Lake Gatun, one of the water bodies that supply the canal with water, has seen its depth falling to a seven-year low.**
  - ✓ Gatun Lake is a **freshwater artificial lake to the south of Colón, Panama.**
- ❖ The Panama Canal, **connecting the Pacific and Atlantic Oceans**, is **one of the busiest shipping lanes in the world.**
- ❖ It **enables ships to avoid the lengthy journey around Cape Horn** which is located at the southern tip of **South America.**
- ❖ It **connects nearly 2,000 ports in 170 countries.**
- ❖ Panama is located on the **isthmus connecting North and South America.**

## 12. DAYS TO REMEMBER

### 12.1 WORLD WIDE WEB DAY 2023- AUGUST 1ST

- ❖ World Wide Web Day, observed on **August 1<sup>st</sup> annually**, recognizes the **birth of one of the most transformative inventions of modern history— the World Wide Web (WWW).**
- ❖ Created by **English computer scientist Tim Berners-Lee in 1989** while working at the **European Organisation for Nuclear Research (CERN)**, the WWW has revolutionised how we communicate, learn, and interact.
- ❖ It was on this day in 1991 that Berners-Lee posted a **groundbreaking proposal for the World Wide Web** on the **alt.hypertext newsgroup.**
- ❖ He **developed the fundamental principles of the web—HTTP, HTML, the WorldWideWeb browser, a server, and the first website.**

### 12.2 WORLD LUNG CANCER DAY 2023- AUGUST 1ST

- ❖ Every year **World Lung Cancer Day** is observed on **August 1<sup>st</sup>** to raise awareness about the severe condition of lung cancer and foster further research, aiming to dispel any misconceptions associated with the disease.
- ❖ The **two major classifications of lung cancer** are **small-cell lung cancer** and **non-small-cell lung cancer**, with small-cell lung cancer being more aggressive in its spread.
- ❖ People must look out for **symptoms like persistent cough, breathlessness, and chest pain** for **timely diagnosis.**
- ❖ **Certain individuals** are more **prone to developing lung cancer**, including **smokers, those with a family history, and individuals exposed to occupational hazards.**

### 12.3 EARTH OVERSHOOT DAY

- ❖ The Earth Overshoot Day for year 2023 fell on **August 2<sup>nd</sup>.**
- ❖ The **day marks the date when humanity's demand for ecological resources (fish and forests, for instance) and services in a given year exceeds what the Earth can regenerate in that year.**
- ❖ The concept of **Earth Overshoot Day** was first conceived by **Andrew Simms of the UK think tank New Economics Foundation.**

- ❖ It is measured by **Global Footprint Network** (international research organization) each year since **1971**.
- ❖ **World-Wide Fund for Nature (WWF)**, the world's largest conservation organization, has **participated in Earth Overshoot Day since 2007**.
- ❖ It is **calculated by** Global Footprint Network by **dividing the planet's biocapacity** (the amount of ecological resources Earth is able to generate that year), by **humanity's Ecological Footprint (humanity's demand for that year)**, and **multiplying by 365**, the number of days in a year:
  - ✓ **Earth Overshoot Day = (Planet's Biocapacity / Humanity's Ecological Footprint) x 365**

#### 12.4 NATIONAL HANDLOOM DAY- AUGUST 7TH

- ❖ **National Handloom Day** is observed annually on **August 7<sup>th</sup>**. This day **honours the handloom weavers and recognises their role in the country's economy and culture**.
- ❖ The **Theme of National Handloom Day 2023** is "**Handlooms for Sustainable Fashion**".
  - ✓ It **emphasises the significance of handloom weaving as an environmentally friendly procedure and sustainable substitute for machine-made fabrics**.
- ❖ The **origin of National Handloom Day** has its roots back in the **Swadeshi Movement, which was launched on August 7<sup>th</sup>, 1905 from Calcutta Town Hall**.
  - ✓ However, the **day came into celebration only after 2015**.
  - ✓ **The Government of India, in 2015, designated August 7 as National Handloom Day**.
- ❖ Now, it is **celebrated across the country with a variety of events and activities**.

#### 12.5 INTERNATIONAL DAY OF THE WORLD'S INDIGENOUS PEOPLES- AUGUST 9TH

- ❖ The United Nations' (UN) **International Day of the World's Indigenous People** is observed on **August 9<sup>th</sup>** each year **to promote and protect the rights of the world's Indigenous population**.
- ❖ It is **also known as World Tribal Day**.
- ❖ **Theme for World Tribal Day 2023** is "**Indigenous Youth as Agents of Change for Self-determination**."
- ❖ It was **first proclaimed by the United Nations General Assembly in December 1994**.

#### 12.6 WORLD BIOFUELS DAY –AUGUST 10TH

- ❖ **World Biofuel Day** is observed annually on **August 10<sup>th</sup>**.
- ❖ It aims to **spread awareness about the importance of non-fossil fuels as an alternative for humanity**.
- ❖ Biofuels are **environment-friendly fuels that can be produced using biological materials like agricultural waste, trees, crops or even grass**.
- ❖ It **celebrates the legacy of Sir Rudolf Diesel, the mechanical engineer behind the development of the diesel engine in 1892**.

#### 12.7 WORLD LION DAY- AUGUST 10TH

- ❖ **World Lion Day** is annually observed on **August 10<sup>th</sup>** throughout the **world to create awareness about conservation & protection of Lions**.
- ❖ **Big Cat Rescue, the world's largest accredited lion sanctuary, established World Lion Day in 2013**.

#### ABOUT LION

- ❖ Scientific Name- **Panthera leo**.
- ❖ Lions are one of the **most sociable cats** and **live in a group called Prides**.
- ❖ Lions are divided into **2 subspecies**-
  - ✓ **African lion (Panthera leo leo)** and
    - It is found in Africa, **south of the Sahara desert**.
  - ✓ **Asiatic lion (Panthera leo persica)**.
    - It is presently found **only in and around the Gir Forest in the Saurashtra peninsula of Gujarat**.



- ✓ Asiatic lions are slightly smaller than African lions.
- ❖ Population- As per the estimates, there are **between 30,000 and 100,000 lions left in the world today.**
- ❖ Threats include **Poaching, trophy hunting and the destruction of natural habitat.**
- ❖ Lions are the **top predators in their habitat** and control the population of grazers, keeping the ecological balance.
- ❖ The **lion census in India is conducted once every five years.**
- ❖ **Protection status**
  - ✓ **IUCN Red List**
    - African Lion: **Vulnerable**
    - Asiatic Lion: **Endangered and WPA- Schedule I, CITES- Appendix I**

## 12.8 WORLD ORGAN DONATION DAY 2023-AUGUST 13TH

- ❖ World Organ Donation Day is **observed annually on August 13<sup>th</sup>** to raise awareness about the importance of organ donation and to encourage people to become organ donors.
- ❖ The **theme for World Organ Donation Day 2023** is “**Step up to volunteer; need more organ donors to fill the lacunae**”.
- ❖ It was **first celebrated in 2005** by the **World Health Organization (WHO)** and the **International Society for Organ Donation (ISOD).**

## 12.9 WORLD MOSQUITO DAY- AUGUST 20TH

- ❖ **World Mosquito Day** is observed annually on **August 20<sup>th</sup>.**
- ❖ It is done to **commemorate the contributions of British doctor Sir Ronald Ross**, who was **the first person to discover the connection between malaria and female anopheles mosquitoes.**

## 12.10 WORLD SENIOR CITIZEN DAY 2023-AUGUST 21ST

- ❖ **World Senior Citizen Day** is celebrated **annually on August 21<sup>st</sup>** to raise awareness of the contributions of older adults to society.
- ❖ **In 1988, Ronald Reagan**, the then **President of the United States** declared August 21 as World Senior Citizen Day.

## 12.11 WORLD WATER WEEK

- ❖ World Water Week is a **global event** which is **organised by the Stockholm International Water Institute every year since 1991.**
- ❖ The programme will be held from August 20 to 24 at the Waterfront Congress Center.
- ❖ The **theme for 2023** is “**Seeds of Change: Innovative Solutions for a Water-Wise World**”.

## 12.12 INTERNATIONAL DAY FOR THE REMEMBRANCE OF THE SLAVE TRADE AND ITS ABOLITION- AUGUST 23RD

- ❖ **International Day for the Remembrance of the Slave Trade and its Abolition** is observed annually on **August 23<sup>rd</sup>.**
- ❖ **Theme of the day this year** is “**Fighting slavery’s legacy of racism through transformative education**”
- ❖ **Brief history-** An **uprising began in Saint Domingue, today’s Haiti, on August 23, 1791**, that **played a pivotal role in ending the transatlantic slave trade.**

## 12.13 WOMEN'S EQUALITY DAY- AUGUST 26TH

- ❖ **Women’s Equality Day** is observed **annually on August 26<sup>th</sup>.**

- ❖ It marks a **global recognition of the ongoing struggle for equal rights and opportunities for women.**
- ❖ **History-** On this day, the **19<sup>th</sup> Amendment to the US Constitution was officially certified in 1920.**
  - ✓ The **amendment provided women the right to vote.**
- ❖ Women's Equality Day was **first celebrated on August 26, 1971.**
- ❖ The **theme for Women's Equality Day 2023 is "Embrace Equity".**

### 12.14 NATIONAL SPORTS DAY 2023- AUGUST 29TH

- ❖ The **National Sports Day in India is celebrated every year on 29<sup>th</sup> August.**
- ❖ It is celebrated **to commemorate the birth anniversary of hockey legend Major Dhyan Chand Singh.**
- ❖ The **first National Sports Day was celebrated on August 29, 2012** and hence 2023 marks the **12th anniversary of Rashtriya Khel Divas.**
- ❖ The **theme for the National sports day 2023 is "Sports are an enabler to an inclusive and fit society".**

### 12.15 WORLD SANSKRIT DAY

- ❖ **PM Modi extended his greetings to the public on World Sanskrit Day.**
- ❖ World Sanskrit Day or World Sanskrit Diwas **is celebrated on Purnima Tithi of Shravana month.**
  - ✓ This year, the Sanskrit Diwas falls on **August 31<sup>st</sup>.**
  - ✓ The **first World Sanskrit Day was celebrated in 1969.**
- ❖ The **purpose of this day's celebration is to raise awareness and advocate for Sanskrit, one of India's oldest and ancient languages.** It is the language used by scholars and saints in ancient India to pen several **revered books**, especially about religious teachings and philosophy.

## 13. APPOINTMENTS

### 13.1 RAJIV GAUBA GETS 1-YEAR EXTENSION AS CAB. SEC.

- ❖ The Central government has granted a **one-year extension to Cabinet Secretary Rajiv Gauba**, making him the **longest-serving cabinet secretary** in India's history.
  - ✓ The decision was **made by the Appointments Committee of the Cabinet (ACC).**
- ❖ Initially appointed for a **two-year tenure in 2019**, he has now received extensions twice, first in 2021 and now, beyond August 2023.
- ❖ With this latest extension, **his tenure will surpass that of BD Pande, who held the position from November 2, 1972, to March 31, 1977**, making **Rajiv Gauba the longest-serving cabinet secretary in India's bureaucratic history.**

### 13.2 SANJAY KUMAR AGGARWAL IS CBIC CHAIRMAN

- ❖ IRS officer **Sanjay Kumar Aggarwal** has taken charge as the **Chairman of the Central Board of Indirect Taxes and Customs (CBIC).**
- ❖ **CBIC is a statutory body under the Ministry of Finance** responsible for the **administration of indirect taxes in India, which include customs, central excise, service tax, and goods and services tax (GST).**

## 14. PERSON IN NEWS

### 14.1 FOLK SINGER, GADDAR PASSES AWAY

- ❖ Renowned folk singer and activist, **Gaddar** from **Telangana**, passed away at the age of 74.
- ❖ **Gaddar**, also known as **Gummadi Vittal Rao**, gained popularity primarily through his stage name.
- ❖ He brought **attention to various issues faced by the common people with his songs**.

### 14.2 ABININDRA NATH TAGORE

- ❖ Recently, **152<sup>nd</sup> birth anniversary of Abanindranath Tagore** was observed on **August 7<sup>th</sup>**.

#### ABOUT ABANINDRANATH TAGORE (1871-1951)

- ❖ Abanindranath Tagore was an **artist and writer** from Tagore family.
- ❖ He was the **nephew of Rabindranath Tagore**.
- ❖ He was **trained by European artists O. Ghilardi and Charles Palmer at Calcutta Sanskrit College**.
- ❖ He was the **first major supporter of the Swadeshi movement in Indian Art** and created the '**Indian Society of Oriental Art**'.
- ❖ He later founded the **Bengal School of Art**.
- ❖ He **modernized the Mughal and Rajput styles**.
- ❖ His paintings reflected a **medley of the influences of the Japanese 'wash' style and Chinese ink painting, English pre-Raphaelite and Art-Nouveau trends**.
- ❖ Famous paintings-
  - ✓ **Arabian Nights**
  - ✓ **Ganesh Janani**
  - ✓ **The Victory of Buddha** and
  - ✓ **Bharat Mata's (1905) painting is the best-known work of Abanindranath**
    - Abanindranath **portrays Bharat Mata as Swadesh's ideals during the more significant Indian Independence movement**.

### 14.3 WILLIAM FRIEDKIN PASSES AWAY

- ❖ **William Friedkin**, the **Oscar-winning American director** of films like **The Exorcist** and **The French Connection** passed away recently in Los Angeles.
- ❖ He made his **feature directorial debut** with the film **"Good Times" in 1967**.
- ❖ He won the **Oscar for Best Director** for his **1971 film "The French Connection"**, which won 5 Oscars in total including best picture.
- ❖ **The Exorcist** by William Friedkin became the **first horror film to be nominated for Best Picture in the Oscar award in 1974**.

### 14.4 SUBHADRA KUMARI CHAUHAN

- ❖ **Google** honoured **Subhadra Kumari Chauhan** with a special graphic on her **117th birth anniversary on August 16**.

#### ABOUT SUBHADRA KUMARI CHAUHAN

- ❖ On August 16, 1904, **Subhadra Kumari Chauhan** was born in **Nihalpur, Uttar Pradesh**.
- ❖ She **was known to write constantly**, even in the horse cart on the way to school, and **her first poem was published when she was just 9**.

- ❖ Subhadra Kumari Chauhan was a trailblazing writer and freedom fighter whose work rose to national prominence during a male-dominated era of literature.
- ❖ She published a total of 88 poems and 46 short stories.
- ❖ **Jhansi ki Rani**, Subhadra's nationalist poem, is regarded as one of the most recited poems in Hindi literature.
- ❖ She was India's first woman Satyagrahi to be arrested in 1923 in Nagpur.
- ❖ Her poetry and prose primarily centered around the hardships that Indian women overcame, such as gender and caste discrimination.
- ❖ She died in 1948 in a car accident near Seoni, Madhya Pradesh on her way back to Jabalpur from Nagpur.

## 14.5 DAYANAND SARASWATI

- ❖ To mark the 200<sup>th</sup> birth anniversary of Arya Samaj founder Dayanand Saraswati this year, the government has formed a high-level committee headed by Prime Minister Narendra Modi.
- ❖ Members include Union ministers, state governors, senior officials from various departments and office-bearers of the Arya Samaj organisation.

### ABOUT MAHARISHI DAYANAND SARASWATI (1824-83)

- ❖ He was born on 12<sup>th</sup> February 1824 in Tankara, Gujarat in a Brahmin family.
- ❖ He was an Indian philosopher and social leader.
- ❖ He took inspiration from the Vedas and considered them to be 'India's Rock of Ages' and gave the slogan "Back to the Vedas".
- ❖ His magnum opus, **Satyarth Prakash (1875)**, emphasised the "return to Vedic principles" that Dayanand Saraswati believed "had been lost" over time.
  - ✓ The book uses the language of religious revivalism – hearkening back to a 'better' ancient past – in order to fashion a modern religious philosophy and organisation, capable of competing against the increasingly proselytising Christian missionaries.
- ❖ A believer in the supreme authority of the vedas, he established the Arya Samaj in 1875, leading a reform movement within orthodox Hinduism.
- ❖ His beliefs included a rejection of idolatry and the overly ritualistic traditions of Hinduism, support for women's education, denunciation of child marriage and an opposition to untouchability.
- ❖ He was the first to call for Swaraj by raising slogan 'India for Indians' in 1876.
- ❖ The DAV (Dayanand Anglo Vedic) schools came into existence in 1886 to realize the vision of Swami Dayanand Saraswati.

### ABOUT ARYA SAMAJ

- ❖ Its 1<sup>st</sup> unit was set up at Mumbai and but headquarters were located in Lahore.
- ❖ This was a monotheistic Hindu order that rejected the ritualistic excesses and social dogmas of orthodox Hinduism and promoted a united Hindu society on the basis of Vedic teachings.
- ❖ It worked towards abolishing caste system, women's subjugation, and promoted widow remarriage.

## 14.6 C R RAO

- ❖ Calyampudi Radhakrishnan Rao, 102, among the world's most eminent statisticians, died recently in the United States.
- ❖ He was born on September 10, 1920, in Hadagali, Bellary district in a Telugu family.
- ❖ He taught and researched at the Indian Statistical Institute (ISI), Kolkata.
- ❖ Dr. Rao pioneered several fundamental statistical concepts such as the Cramer–Rao inequality and Rao–Blackwellization theorem and Fisher–Rao metric, concepts that appear in undergraduate textbooks on statistics and econometrics.
- ❖ He served as chairman of the Committee on Statistics (1962-69), chairman of the Demographic and Communication for Population Control (1968-69), chairman of the Committee on Mathematics, Atomic

Energy Commission, AEC (1969-78), member of the Committee on Science and Technology, COST (1969-71).

- ❖ After his retirement, **Dr. Rao moved to the United States** and worked at several universities.
- ❖ Former U.S. President **George Bush conferred on him the National Medal of Science.**
- ❖ He was awarded **India's highest honours the Padma Bhushan and Padma Vibhushan in 1969 and 2001, respectively**

## 15. AWARDS AND HONOURS

### 15.1 LOKMANYA TILAK NATIONAL AWARD

- ❖ PM Modi was recently conferred the **Lokmanya Tilak National Award in Pune, Maharashtra.**
- ❖ He was the **41<sup>st</sup> recipient of the award.**
- ❖ The Award was constituted by **Tilak Smarak Mandir Trust in 1983 to honour the legacy of Lokmanya Tilak.**
- ❖ This award is **given every year on 1<sup>st</sup> August, the death anniversary of Lokmanya Tilak, to persons who have made remarkable and extraordinary contributions, working for the progress and development of the nation.**

### 15.2 SHANTI SWARUP BHATNAGAR AWARDS

- ❖ The **Shanti Swarup Bhatnagar awards for 2022 haven't been announced and, this year, too, the nominations for Bhatnagar Awards 2023 were not called for.**

#### ABOUT SHANTI SWARUP BHATNAGAR AWARDS

- ❖ Named after **Shanti Swarup Bhatnagar, the first director of Council of Scientific & Industrial Research (CSIR).**
- ❖ These awards are **given every year in seven scientific disciplines — physics, biology, engineering, mathematics, medicine, chemistry, and earth sciences.**
- ❖ **Each award — there cannot be more than two per discipline — carries a cash component of Rs 5 lakh and, since 2008, an honorarium of Rs 15,000 per month till the scientist is serving in a publicly funded institution.**
- ❖ **A panel of eminent scientists, put together by CSIR every year, makes the final selection out of 500-600 nominations received on average per year.**
- ❖ **Eligibility**
  - ✓ **Any Citizen of India engaged in research up to age of 45 years,**
  - ✓ **Overseas citizen of India (OCI) and Persons of Indian Origin working in India**

### 15.3 69TH NATIONAL FILM AWARDS

- ❖ The winners of the **69<sup>th</sup> National Film Awards** were announced recently.

#### WINNERS INCLUDED

- ❖ **Allu Arjun** bagged the **Best Actor award for the film Pushpa: The Rise,**
- ❖ **Alia Bhatt and Kriti Sanon** shared the award for **Best Actress for the films Gangubai Kathiawadi and Mimi respectively.**
- ❖ **Rocketry: The Nambi Effect** won the award for **Best Feature Film.**
- ❖ **The Kashmir Files** won the **Nargis Dutt Award for Best Film on National Integration**
- ❖ **Shoojit Sircar's** biographical historical drama **Sardar Udham** won **Best Hindi Film, Best Cinematography (Avik Mukhopadhyay), Best Audiography (Sinoy Joseph), Best Production Design (Dmitrii Malich and Mansi Dhruv Mehta) and Best Costume Design (Veera Kapur Ee) awards.**

## ABOUT THE AWARD

- ❖ The awards aim at **encouraging the production of films of aesthetic and technical excellence and social relevance.**
- ❖ The awards **were first handed out in 1954** and **were known as the 'State Awards'**. At the time, **only best films in different regional languages were recognised and awarded.**
- ❖ The awards for **actors and technicians working on the films were first given in 1967.**
- ❖ They are presented by the **President of India.**

Nargis was the **first actor to win Best Actress** for her performance in **Raat Aur Din.**

**Uttam Kumar** won the **Best Actor** award for **Antony Firingee** and **Chiriyakhana** in the same year.

## 15.4 INDIA SMART CITIES AWARD CONTEST-2022

- ❖ **Ministry of housing and urban affairs (MoHUA)** recently announced the **India Smart Cities Award Contest (ISAC)** under the **Smart Cities Mission (SCM)**, that **felicitated 66 winners in various categories.**
- ❖ The **ISAC 2022 award** had a **two-stage submission process** consisting of **'Qualifying Stage'**, which involved **overall assessment of the city's performance**, and the **'Proposal Stage'** which required the smart cities to **submit their nominations for six award categories.**
- ❖ A total of **845 nominations** were received for **ISAC 2022** from **80 qualifying smart cities.**
- ❖ **Winners included-**
  - ✓ **Indore** won the **national smart city award,**
  - ✓ **Madhya Pradesh** received the **state award** and **Chandigarh** received the **UT award.**
  - ✓ **Coimbatore - built environment,**
  - ✓ **Ahmedabad** for the **culture and Integrated Command and Control Centre (ICCC) category,**
  - ✓ **Jabalpur** for **economy,**
  - ✓ **Chandigarh** for **governance and mobility,**
  - ✓ **Indore** for **sanitation, water and urban environment,**
  - ✓ **Vadodara** for **social aspects,**
  - ✓ **Hubbali Dharwad** for the **innovative idea category** and
  - ✓ **Surat** for **Covid innovation category.**

## 15.5 GRAND CROSS OF THE ORDER OF HONOUR

- ❖ The Prime minister of India was recently conferred with the **Grand Cross of the Order of Honour** by **Greek President Katerina N. Sakellaropoulou in Athens.**
- ❖ The **Grand Cross of the Order of Honour** is **conferred by the president of Greece to prime ministers and eminent personalities** who by reason of their distinguished position, have contributed to enhancing the **stature of Greece.**
- ❖ The **Order of Honour** was **established in 1975.**
- ❖ This is the **second-highest civilian honour in Greece.**
- ❖ The **head of goddess Athena** is depicted on the front side of the **Star** with the inscription **"ONLY THE RIGHTEOUS SHOULD BE HONOURED"**.

## 16. SPORTS

### 16.1 MAX VERSTAPPEN WINS BELGIAN GRAND PRIX

- ❖ **Max Verstappen** from Red Bull won the **Belgian Grand Prix** recently.
- ❖ His teammate **Sergio Perez** came in second.
- ❖ **Ferrari** driver **Charles Leclerc** finished in third spot.

### 16.2 DURAND CUP

- ❖ The **132<sup>nd</sup>** edition of **Durand Cup** kicked off in **Kokrajhar, Assam** recently.
- ❖ The tournament is **organised by the Armed Forces** and **supported by the Government of Assam**.
- ❖ It is **Asia's oldest** and the **world's third oldest football tournament**.
- ❖ **Top Indian football clubs** participate in Durand cup from across the country.
- ❖ The **first ever edition** took place in **Shimla in 1888**, when it started off as an **Army Cup**, open only to the **British Indian Army troops in India**.

### 16.3 INDIA'S FIRST-EVER GOLD MEDAL AT THE WORLD ARCHERY CHAMPIONSHIP

- ❖ Indian women's compound team comprising **Jyothi Surekha Vennam, Parneet Kaur, and Aditi Gopichand Swami**, secured **India's inaugural Gold medal** at the **World Archery Championship in Berlin**.
- ❖ **Aditi Gopichand Swami** became the **youngest-ever senior world champion** and the **first Indian to win an individual compound gold medal** at the **World Archery Championships at the age of 17**.

### 16.4 FIFA WOMEN'S WORLD CUP 2023

- ❖ **Spain** secured their maiden **FIFA Women's World Cup title** with a **1-0 win over England**.
- ❖ **FIFA Women's World Cup final** was held in **Sydney**.
- ❖ The tournament was **hosted jointly by Australia and New Zealand**.

### 16.5 FIDE WORLD CUP

- ❖ **Rameshbabu Pragganandhaa** from India finished **second** in **International Chess Federation- FIDE World Cup** and **Magnus Carlsen** finally managed to win the **FIDE World Cup** for the first time in his career.
- ❖ The chess tournament that took place in **Baku, Azerbaijan**.

#### ABOUT RAMESHBABU PRAGGNANANDHAA

- ❖ Pragganandha, who turned 18 during the World Cup, was the **youngest World Cup finalist ever**.
- ❖ Pragg seeded at 31, is also the **lowest seed to make the final of the World Cup**.
- ❖ He became a **Grand Master at the age of 12**.

### 16.6 MAX VERSTAPPEN WINS DUTCH GRAND PRIX

- ❖ **Max Verstappen** has won the **Dutch Grand Prix** for the **third consecutive year**.
- ❖ **Fernando Alonso** came in **second place**.
- ❖ **Pierre Gasly** finished at **third place on the podium**.

### 16.7 NEERAJ CHOPRA WINS GOLD AT WORLD ATHLETICS CHAMPIONSHIPS

- ❖ Neeraj Chopra has made history by **winning the gold medal** in the **men's javelin throw event** at the **World Athletics Championships** held in **Budapest, Hungary**.
- ❖ He became the **first-ever Indian athlete** to win a gold at the Championship.
- ❖ Neeraj made a **throw of 88.17 meters** during his **second attempt**.

## 17. SOCIAL ISSUES, HEALTH, EDUCATION

### 17.1 BPAL REGIMEN TRIAL FOR TB

- ❖ Over **85% cure rate** has been seen in **modified BPaL regimen trial** for **Tuberculosis**.
- ❖ The BPaL regimen is an **all oral, short treatment course** which uses **only three drugs — bedaquiline, pretomanid and linezolid** — and the treatment lasts **only for 26 weeks**.
  - ✓ In contrast, **conventional treatment for (Drug resistant)DR-TB**, requires **8-9 tablets to be taken each day for 18 months**
- ❖ The shorter duration of the BPaL regimen also means that **people undergoing the treatment cannot miss even one dose**. In short, **treatment adherence should be very good**.
- ❖ India is **targeting to reduce TB incidence by 80% and TB deaths by 90% by 2025**.

### 17.2 GOOD MANUFACTURING PRACTICES

- ❖ Following **recent incidents of several countries reporting deaths** allegedly linked to **“contaminated” India-manufactured drugs**, the **government has set a deadline for mandatory implementation of the Good Manufacturing Practices (GMP)** which were revised in 2018, bringing them **on par with World Health Organisation (WHO) standards**.
  - ✓ GMP are **mandatory standards which build and bring quality into product** by way of control on **materials, methods, machines, processes, personnel and facility or environment etc**.
  - ✓ GMP were first incorporated in **Schedule M in 1988**. The norms were last amended in **2018**.
- ❖ **Schedule M of the Drugs and Cosmetics Act, 1940**, deals with **GMP for pharmaceutical manufacturing units, including specific requirements pertaining to premises, plant and equipment**.
- ❖ **Timeline (for completion of GMP norms begins August 1 2023)-**
  - ✓ Companies with a **turnover of over Rs 250 crore** will have to **implement the revised GMP within six months**,
  - ✓ **Medium and small-scale enterprises with turnover of less than Rs 250 crore** will have to implement it **within a year**.
  - ✓ **Companies that do not comply with the direction will face suspension of licence and/ or penalty**.
- ❖ This will lead to **at least 11 specific changes** in the **manufacturing process on the ground**, including **introduction of a pharmaceutical quality system, quality risk management, product quality review, and validation of equipment**.

About **only 2,000 of the 10,500 manufacturing units** in the country were found to be compliant with the global WHO-GMP standards.

### 17.3 TRACHOMA

- ❖ **Iraq** has now **joined the league of 17 other countries** that **have eliminated trachoma**.
- ❖ The country is **also the 50<sup>th</sup> to be acknowledged by the WHO** for **eliminating at least one neglected tropical disease globally**.
- ❖ The **17 other countries** that have eliminated trachoma are: **Benin, Cambodia, China, Gambia, Ghana, Islamic Republic of Iran, Lao People's Democratic Republic, Malawi, Mali, Mexico, Morocco, Myanmar, Nepal, Oman, Saudi Arabia, Togo and Vanuatu**.



## ABOUT TRACHOMA

- ❖ It is a **neglected tropical disease** and the **world's leading infectious cause of blindness**.
- ❖ It **starts off as a bacterial infection** caused by *Chlamydia trachomatis* and can be easily treated.
- ❖ Over time, it **causes the eyelashes to be pushed inward into the eye**.
  - ✓ So with **every blink, they brush against the eyeball**.
  - ✓ This advanced form of trachoma is called **trichiasis**.
  - ✓ Over time, **if it's not treated**, trichiasis can lead to blindness.
- ❖ The **disease thrives where there are water shortages, poor sanitation and infestations of flies**, which are **considered physical vectors of the disease**.
- ❖ To eliminate trachoma as a public health problem, **WHO recommends the SAFE strategy**-
  - ✓ **Surgery** to treat the blinding stage (trachomatous trichiasis);
  - ✓ **Antibiotics** to clear the infection, particularly the antibiotic **azithromycin**;
  - ✓ **Facial cleanliness** and
  - ✓ **Environmental improvement**, particularly improving access to water and sanitation.

## 17.4 CHROMODOMAIN HELICASE DNA BINDING PROTEIN 1 LIKE (CHD1L)

- ❖ According to a new study, **some people of African descent possess a gene variant- Chromodomain Helicase DNA Binding Protein 1 Like (CHD1L) that likely controls human immunodeficiency virus (HIV), lowering their risk of transmitting the virus and delaying the advancement of their own illness**.
  - ✓ The researchers said **between 4 to 13% of people of African origin could be carrying this particular variant**.
- ❖ CHD1L contains information **to make proteins that allow the body to repair DNA damage**.
- ❖ CHD1L gene variant has been **linked to reduced viral load (amount of HIV in blood) of HIV-1 (more common and severe retrovirus compared to HIV-2)**.
- ❖ The **gene variant CHD1L is found on chromosome 1**.

## 17.5 HAVANA SYNDROME

- ❖ The central government will be soon investigating the possibility of 'Havana Syndrome' in India.

### ABOUT HAVANA SYNDROME

- ❖ The **mysterious illness 'Havana' came to the public attention in 2016 after several diplomats at the American embassy in Havana began complaining of being sick**.
- ❖ Their **symptoms included migraines, nausea, memory lapses, dizziness, hearing sounds without any external noise, balance issues and vertigo**.
  - ✓ Some of the officials claimed that their symptoms lasted for months.
- ❖ According to reports, **thousands of alleged cases of the mysterious condition have been reported by diplomats, spies, and US officials across the world including Vienna, Paris, Geneva, Beijing, and Havana, among others over the past few years**.

## 17.6 STATE OF ELEMENTARY EDUCATION IN RURAL INDIA REPORT

- ❖ The report is **conducted by the Development Intelligence Unit (DIU)**, a collaboration between **Transform Rural India and Sambodhi Research and Communication Private Limited**.
- ❖ The **first 'State of Elementary Education in Rural India' report is based on data accumulated from 6,229 rural households across 20 states**.
- ❖ The study was **focused on children in rural communities between the age of 6 to 16 years**.

### MAJOR FINDINGS

- ❖ **78% of parents in rural India aspire to educate their girls to graduation and beyond and 82% parents of boys in rural areas want to educate their children**
- ❖ According to the survey, **25% of male children dropped out of school during primary schooling.**
- ❖ The **dropout rate at this stage was higher for female children at nearly 35 per cent.**
- ❖ **Nearly 75 per cent boys and 65 per cent girls dropped out of school after completing primary school education.**
  - ✓ **Girls dropped out** because of-
    - a requirement to help out in the family's earnings.
    - due to lack of interest in studies
    - had to take care of household chores and siblings at home.
  - ✓ **Boys dropped out** because of-
    - the lack of interest
    - to help out in family's earnings.
- ❖ **Non-availability of schools with higher classes within the village or nearby villages** was also a major reason for dropouts.
- ❖ **89% of parents participated in extra-curricular activities** with their children.

## 17.7 LYMPHATIC FILARIASIS

- ❖ The **second phase** of the annual **Nationwide Mass Drug Administration** initiative for **Lymphatic Filariasis** was launched recently.
- ❖ It will **cover 81 districts** in **nine endemic States**. This includes **Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, Maharashtra, Odisha, Telangana, and Uttar Pradesh.**
- ❖ India is committed to **eliminate Lymphatic Filariasis by 2027**, three years ahead of the **global target(2030)** through mission mode.
  - ✓ **Over 40% of global cases are found** in India.

### ABOUT LYMPHATIC FILARIASIS

- ❖ It **impairs the lymphatic system** and **can lead to the abnormal enlargement of body parts**, causing pain, severe disability and social stigma.
- ❖ It is **commonly known as elephantiasis.**
- ❖ It is a **neglected tropical disease (NTD).**
- ❖ It is a **vector-borne disease**, caused by **infection with parasites classified as nematodes** (roundworms) of the family **Filarioidea.**
- ❖ **Spread from person to person by mosquitoes.**

**Lymphatic system** is a network of **vessels and specialized tissues** that are essential to maintaining the **overall fluid balance and health of organs and limbs** and, importantly, are a **major component of the body's immune defense system.**

## 17.8 BUBONIC PLAGUE

- ❖ **China's northern region of Inner Mongolia** recently reported **2 cases of bubonic plague.**

### ABOUT BUBONIC PLAGUE

- ❖ It is historically known as the **"Black Death"** in reference to the **gangrenous blackening and death of body parts**, such as the **fingers and toes**, that can happen with the illness.
- ❖ Bubonic plague is the **most common form of plague**, which **can be fatal if not treated in time.**
- ❖ **Bubonic plague** infection is **spread mostly by rodents.**
- ❖ It is **caused by the bite of an infected flea.**
- ❖ It is caused by **bacteria called Yersinia pestis** which **enters at the bite and travels through the lymphatic system to the nearest lymph node** where it replicates itself.
- ❖ The **lymph node then becomes inflamed, tense and painful**, and is called a **'bubo'.**

- ❖ Along with the tender, enlarged lymph nodes, that can be as large as a chicken egg, **other symptoms include fever, chills, headache, muscle aches and tiredness.**
- ❖ **Bubonic plague can advance and spread to the lungs, which is the more severe type of plague called pneumonic plague.**
- ❖ **Human-to-human transmission of bubonic plague is rare.**
- ❖ It can now be **easily treated with antibiotics.**

## 17.9 NATIONAL SYLLABUS AND TEACHING LEARNING MATERIAL COMMITTEE (NSTC)

- ❖ **National Council of Educational Research and Training (NCERT), the country's apex advisory body on school education, has initiated the final phase of developing new textbooks by forming a 19-member committee (NSTC), with an aim to align "school syllabus, textbooks, teaching and learning materials" for students in grades 3<sup>rd</sup> to 12<sup>th</sup>.**
- ❖ **National Institute of Educational Planning and Administration (NIEPA) chancellor MC Pant will be heading the 19-member committee.**
- ❖ **A professor at Princeton University and a Fields medalist, Manjul Bhargava will be its co-chair.**
- ❖ **Mandate- To prepare textbooks, and other teaching learning materials, which will be published and used by the NCERT for reference.**
- ❖ **NSTC will be accompanied by Curricular Area Groups (CAGs) in the development of the teaching-learning material for all curricular areas.**
- ❖ **The objective of the committee will be to align the curriculum with the National Curriculum Framework for School Education (NCF-SE 2023), developed by the K Kasturirangan-led committee as a part of the NEP 2020.**
  - ✓ **The NCF-SE, now in the advanced stages, will act as the reference point and guiding road map for the syllabus and textbook developers for school-level education all over the country.**

## 17.10 GOA TO PROVIDE FREE IVF TREATMENT

- ❖ **Goa has become the first Indian state to offer free in vitro fertilization (IVF) treatment.**
- ❖ **The funding is set to be supplied by approved corporate social responsibility (CSR) programmes.**
  - ✓ **Depending on the hospital and the kind of IVF treatment, the cost of IVF in India comes between Rs 70,000 to Rs 3 lakh per cycle.**

## 17.11 GANDHINAGAR DECLARATION

- ❖ **The World Health Organisation (WHO) South-East Asia Region committed to further accelerate efforts to end tuberculosis by 2030 with member countries adopting the Gandhinagar Declaration.**
  - ✓ **The region bears a disproportionate burden of nearly half of the global TB cases and deaths.**
- ❖ **The Gandhinagar Declaration was adopted to follow-up on the progress made to end TB, a flagship priority in the Region, and in the run up to the UN High Level Meeting (UNHLM) on TB on 22 September in New York.**
- ❖ **The Declaration calls for establishing high-level multisectoral commission reporting to the highest political level in each country for synergy of efforts among various stakeholders, and to monitor progress towards ending TB and other priority diseases.**
- ❖ **The declaration calls for ensuring appropriate adoption and use of science and technology for equitable and human rights-based TB services that are accessible to all, irrespective of any social, cultural, or demographic divide, through an integrated, primary health care approach.**
- ❖ **It calls upon all partners to enhance their support to end TB and priority diseases in the Region as per the UN Sustainable Development Goals target 3.3 - End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases.**

## ABOUT TUBERCULOSIS

- ❖ TB is caused by a bacterium called **Mycobacterium tuberculosis**, belonging to the **Mycobacteriaceae** family consisting of about **200** members.
- ❖ In humans, **TB** most commonly affects the **lungs (pulmonary TB)**, but it can also affect other organs (**extra-pulmonary TB**).
- ❖ TB is an ancient disease and **documented in Egypt as early as 3000 BC**.
- ❖ TB is a **curable disease**.
- ❖ It can **spread from person to person** through air.
- ❖ **Symptoms** include **cough with sputum and blood** at times, **chest pains, weakness, weight loss, fever and night sweats**.

## 17.12 AMYOTROPHIC LATERAL SCLEROSIS (OR ALS)

- ❖ ALS is a **neurodegenerative disease** in which **special nerve cells called motor neurons** in the **brain and spine** - which control an individual's voluntary functions like walking, chewing, talking, moving their arms- are **affected**.
- ❖ As these **nerve cells progressively die**, the **muscles dependent on them are unable to function or move**, due to which **they begin to atrophy or waste away**.
- ❖ ALS is a **progressive disease**.
- ❖ Once it involves the **motor neurons that regulate respiratory muscles, breathing gets affected**.
- ❖ Currently, **there is no effective cure for ALS** and the **best therapies are drugs and other interventions that could lengthen the life of the person with ALS (or PALS)**.
- ❖ The **average survival time is between 20 to 48 months** on an average.

## 17.13 RESPIRATORY SYNCYTIAL VIRUS

- ❖ The **US Food and Drug Administration (FDA)** recently approved **ABRYOVO**, the **first vaccine that protects newborns from Respiratory Syncytial Virus (RSV)**.
- ❖ The new vaccine is **made by PfiZers** and is **given to mothers late in their pregnancies (32-36 weeks)**.
- ❖ It **provides protection to infants through their first six months of life**.
- ❖ During the **trial of the vaccine on more than 7,000 pregnant people and their infants**, it was found that it **cut the risk that infants needed to see a doctor**.
- ❖ It **also reduced the cases of hospitalisation among infants**.

## ABOUT RESPIRATORY SYNCYTIAL VIRUS

- People suffering from this illness are **affected with infections of the lungs and respiratory tract**.
- It is **highly common among children and elderly**.
- It can also lead to **large number of hospitalisations**.
- It **typically hits hardest during the winter months**.
- **RSV spreads from person to person through the air** by coughing and sneezing; **direct contact; touching an object or surface** with the virus on it.
- **Symptoms** include- **congestion, runny nose, fever, cough, sore throat etc**.
- **Vaccines**
  - ✓ There are **many vaccines to protect people from RSV**.
  - ✓ The recently **approved antibody shot can protect infants after birth from the illness**.
  - ✓ **Abrysvo** also became the **first RSV vaccine to gain approval in two different groups**. Earlier, the FDA approved the **shot to protect people 60 and older**.

## 17.14 1ST GLOBAL SUMMIT ON TRADITIONAL MEDICINE

- ❖ WHO's first ever Global Summit on Traditional Medicine was inaugurated as part of the G20 Health Minister's Meeting in Gandhinagar, Gujarat.
- ❖ The theme of the summit was "Towards Health and Well-being for All".
- ❖ WHO's Global Centre for Traditional Medicine is headquartered in Jamnagar, Gujarat.

## 17.15 EASTERN EQUINE ENCEPHALITIS VIRUS

- ❖ A rare mosquito-borne virus Eastern equine encephalitis, has been reported in the US states of Alabama and New York.
- ❖ Eastern equine encephalitis is rare in the US and only few cases are reported every year, 30 % of which could turn fatal and may have severe symptoms.

### ABOUT EASTERN EQUINE ENCEPHALITIS VIRUS

- ❖ The virus was first discovered in horses (equines) in the 1830s.
- ❖ It is caused by a virus spread by infected mosquitoes.
- ❖ It can also infect a wide range of animals, including mammals, birds, reptiles, and amphibians.
- ❖ The mosquito species that cause EEE primarily bite at dawn and dusk
- ❖ **Symptoms**
  - ✓ Starting from high fever, headache, chills and nausea, it can progress to seizures, disorientation, and coma. The survivors may face neurological issues.
- ❖ It does not spread from person to person via touching or droplets from coughing or sneezing.
- ❖ People in the age group of above 50 and under 15 are said to be more at risk.
- ❖ As many as a third of people with the disease die and death usually occurs from 2 to 10 days after symptom onset.
- ❖ Even after recovery, people may face long-term physical or mental impairments ranging from mild brain dysfunction to severe intellectual impairment, personality disorders, seizures, paralysis, and cranial nerve dysfunction.
- ❖ There are no vaccines available to treat the disease. Rest, fluids and over-the-counter pain medications are used to relieve symptoms.

## 17.16 ZIKA VIRUS

- ❖ Mumbai has reported the first case of Zika Virus.

### ABOUT ZIKA VIRUS

- ❖ Zika virus is a mosquito-borne virus that was first identified in the Zika Forest of Uganda in 1947.
- ❖ It gained global attention in 2015 outbreak in the Americas, particularly in Brazil.
- ❖ This outbreak was associated with an increase in babies born with microcephaly.
  - ✓ It is a serious birth defect where babies are born with abnormally small heads and underdeveloped brains.
- ❖ Zika has also been linked to Guillain-Barré syndrome, a rare autoimmune disorder that can lead to muscle weakness and paralysis.
- ❖ **Transmission-**
  - ✓ primarily transmitted to humans through the bite of infected Aedes mosquitoes, particularly Aedes aegypti and Aedes albopictus.
  - ✓ Zika can also spread through sexual contact, blood transfusion, and from an infected mother to her baby during pregnancy or childbirth.
- ❖ **Symptoms**
  - ✓ Many people remain asymptomatic.
  - ✓ When symptoms do occur, they are often mild and include fever, rash, joint pain, muscle pain, headache, and red eyes (conjunctivitis).

- ✓ Symptoms **appear two to seven days after being bitten** by an infected mosquito and **can last for several days to a week.**

❖ **Treatment-**

- ✓ **No vaccine** is yet **available for its prevention.**
- ✓ There is **no specific antiviral treatment for Zika virus infection.**
- ✓ **Supportive care**, such as **rest, hydration, and pain relief**, is typically recommended for **those with symptoms.**
- ✓ Pregnant women who may have been exposed to Zika are closely monitored to detect any birth defects in the baby.

## 18. MISCELLANEOUS

### 18.1 JUICE JACKING

- ❖ The term “**juice jacking**” refers to a **form of cyberattack** where a **public USB charging port is tampered with and infected using hardware and software changes to steal data or install malware on devices connected to it.**
- ❖ The attack is **used by hackers to steal users’ passwords, credit card information, addresses, and other sensitive data stored on the targeted device.**
- ❖ Juice jacking **attacks can take place in any public place with portable wall chargers, or public USB charging stations found in shopping malls, cafes, and hotels.**
- ❖ The term “**juice jacking**” was **first coined in 2011** by **investigative journalist Brian Krebs.**

### 18.2 ATITHI PORTAL

- ❖ It was launched by **Kerala government** to expedite the **registration process for migrant workers.**
- ❖ **Contractors**, who bring guest workers to the state, **and employers can register the workers in the portal.**
- ❖ It also **allows workers to register themselves individually** as well.

### 18.3 PIRIPKURA TRIBE

- ❖ The last known survivors of **Piripkura indigenous tribe** were found in deep within the **Amazon Forest in Brazil.**

#### ABOUT PIRIPKURA

- ❖ The Piripkura tribe is a **secluded indigenous group found in Mato Grosso region in Brazil.**
- ❖ They have **deliberately avoided contact with mainstream society.**
- ❖ They are committed **to maintaining their traditional way of life.**
- ❖ The Piripkura tribe’s **population is estimated to consist of merely three individuals.**
- ❖ **Threats-** Illegal logging, mining activities etc.

## 19. HIMACHAL NEWS

### 19.4 WESTERN TRAGOPAN SEES HOPE IN HIMACHAL PRADESH FOR ITS SURVIVAL

- ❖ Himachal Pradesh's State bird – Western Tragopan (*Tragopan-melanocephalus*) – has been facing **habitat loss in parts of the country**.
- ❖ But because of authorities' efforts, there has been a **gradual increase in the population of this rare species at the State's Sarahan pheasantry**, the **conservation breeding centre**, bringing a glimmer of hope for its survival and growth.
- ❖ **Distribution-** In the **northwest Himalayas from north Pakistan (Indus-Kohistan district) to India, including Kashmir and Himachal Pradesh, and the western parts of Uttarakhand**.
- ❖ The **Sarahan pheasantry in Shimla** has over the years seen successful captive breeding of western tragopan.
  - ✓ According to Himachal Pradesh Wildlife Wing's latest report, "Western Tragopan Biannual Report 2020-2022", the population of the bird, which **was two in 2002**, reached 45 individuals in 2022. **Currently, it is 47.**
  - ✓ **Birdlife International (2020) projects the global population to be around 3,000 individuals.**
- ❖ **Western Tragopan**, being a **habitat specialist**, is **threatened by habitat loss and anthropogenic disturbances**, which includes **livestock grazing, minor forest produce collection like medicinal herbs etc, besides the change in land-use practices**.
- ❖ Protection status
  - ✓ **IUCN Red list status- Vulnerable**
  - ✓ **CITES- Appendix I.**
  - ✓ **Schedule – I of wildlife (Protection) act, 1972.**

### 19.2 SAURABH VAN VIHAR

- ❖ It has been pointed out that **illegal mining is ongoing in Saurabh Van Vihar**, which is dream project of former Chief Minister Shanta Kumar **set up in the memory of Captain Saurabh Kalia who sacrificed his life in Kargil war**.
- ❖ Saurabh Van Vihar is **situated in Palampur town of District Kangra**.
- ❖ It is **located on the right bank of Neugal river** which is prone to flash floods.
  - ✓ Neugal river is a **tributary of Beas river**.

### 19.3 ASIAN RAFTING CHAMPIONSHIP IN HAMIRPUR

- ❖ Deputy Commissioner of **Hamirpur** recently said that the **district will be hosting the four-day Asian Rafting Championship from September 24**.
- ❖ Over **18 teams from various countries** are set to participate in the event.
- ❖ The teams **would cover a distance of over 10 kilometres** in the **running waters of the Beas**.

### 19.4 HATTEE COMMUNITY GETS ST STATUS

- ❖ **Hatee Community**, with **over 2.53 lakh population of Trans Giri tract (GIRIPAR)** in **Sirmaur district**, has been finally granted **Schedule Tribe status** after a long drawn battle.
- ❖ The battle took off slightly late as **Giripar areas ought to have got the ST status in 56 years back itself** when **Bawar-Jaunsar hills of the then Uttar Pradesh and now Uttarakhand were declared tribal by the Union Government**.
- ❖ **Historical facts and current circumstances** reveal that **villagers of Giripar were deprived of their right** despite the fact that **their traditions, primitive culture of polyandry and ancient type of festivals**,

economic backwardness, illiteracy, etc. were identical to their brethren who got a privileged ST status in 1967.

- ❖ Hattees are a close-knit community and derive their name from the tradition of selling homegrown vegetables, crops, meat, wool etc. at small markets.

### 19.5 BARIDHAR TO BE DEVELOPED AS TOURIST SITE

- ❖ The famous religious site of **Baridhar** in **Arki sub-division of Solan** would be **developed as a tourist spot**.
- ❖ A **master plan** has been **prepared to develop Baridhar as a key religious pilgrimage centre where a ropeway would be set up from Svava village to Baridhar**. The detailed project report of this ropeway was being prepared.
- ❖ It is said that the **Pandava spent the last year of their exile at this place** in the caves of the hill and forest.
- ❖ A **temple dedicated to Lord Shiva** is also situated here and **local people call him BaraDev**.

### 19.6 MUKHYAMANTRI VAN VISTAR YOJANA

- ❖ The Himachal Pradesh government has notified the **Mukhyamantri Van Vistar Yojana** that aims to **expand the green cover of the state through integrated site-specific afforestation by including 250 hectares of the barren areas under plantation in various hills and mountains in the first phase during the financial year 2023-24**.
- ❖ For this purpose, a **task force has also been notified with principal chief conservator of forest as the team leader**.
- ❖ The scheme has **objectives**
  - ✓ to **prevent soil erosion, excessive runoff on degraded and refractory hill slopes, and**
  - ✓ **provide forest ecosystem and livelihood opportunity to the local population** in those areas which are devoid of forest cover in vicinity.

### 19.7 NALAGARH FORT SUFFERS DAMAGE DUE TO RAIN

- ❖ 4 out of 35 guest rooms of **around 600-year-old** collapsed at **Nalagarh in Solan following heavy rain**.
- ❖ Constructed in **1421** during the **reign of Raja Bikram Chand**, who represented the Chand dynasty of Himachal Pradesh, **the resort is located on a hilltop**.
- ❖ A **luxury resort is being run in the fort since 1995**.

### 19.8 PONG DAM RECORDS HIGHEST-EVER WATER INFLOW

- ❖ The Pong dam on the **Beas river in Himachal Pradesh** has **recorded the highest-ever inflow since it became operational in 1974**.
- ❖ The water inflow into the dam **reached 7,30,079 (7.30 lakh) cusecs** on 14<sup>th</sup> August, 2023.
- ❖ The **previous highest inflow of 7,15,400 (7.15 lakh) cusecs** was recorded in 1978.
- ❖ The Pong dam is situated in **Talwara**, on the **border of Punjab and Himachal Pradesh**.
- ❖ The **primary catchment area** for the dam is in **Himachal Pradesh**.

### 19.9 FIVE HELIPORTS TO BE BUILT IN HAMIRPUR

- **Five heliports** would be **constructed in Hamirpur district** at a **cost of Rs 12 crore** to promote tourism and provide a fast mode of travelling to tourists.

### 19.10 PEOPLE FROM KOLDAM RESCUED



- An NDRF team conducted a brave operation at the Kol Dam Hydel Project in Himachal Pradesh's Mandi district and saved 10 people trapped at the dam following a failure of their boat.
- The Koldam Hydropower Station commonly known as Koldam, is an embankment dam on the Sutlej River.

### 19.11 SUPPORT PRICE OF APPLE, MANGO UNDER MIS HIKED

- The Cabinet meeting chaired by CM enhanced the support price of apple, mango and citrus fruits being procured under the Market Intervention Scheme (MIS) from Rs 10.50 per kg to Rs 12 per kg for 2023-24.
- Henceforth, the support price of apple, orange and mango would be Rs 12 per kg, bringing all fruits on a par.
- The support price of kinnow and malta, too, was increased to Rs 12 per kg from Rs 9.50 per kg while the support price of galgal and lemon was increased from Rs 8 per kg to Rs 10 per kg.

### 19.12 RARE BLACK EAGLE SPOTTED AT CHAIL WILDLIFE SANCTUARY

- ❖ A rare black eagle has been spotted for the first time in the lush Chail wildlife sanctuary located in Himachal Pradesh's Solan district.

#### ABOUT BLACK EAGLE (ICTINAETUS MALAIENSIS)

- ❖ It belongs to the family Accipitridae.
- ❖ It is the only member of the genus Ictinaetus.
- ❖ These are large and distinctive dark eagles of forested mountains and hills.
- ❖ The distinguishing feature of the majestic bird is its striking yellow beak, a vibrant contrast to its black feathers.
- ❖ They hunt mammals and birds, particularly at their nests.
- ❖ Global distribution- Found in in the hilly regions of tropical and subtropical South and Southeast Asia, as well as southeastern China.
  - ✓ In India, they are found in Himachal Pradesh and Jammu & Kashmir, forests of the Eastern and Western Ghats in peninsular India.
- ❖ A Unique behaviour of the black eagle is – a preference for the treetop canopy, where it seemingly finds its perfect perch amidst the foliage.
- ❖ Conservation status
  - ✓ IUCN red list: Least concern

#### ABOUT CHAIL SANCTUARY

- ❖ It is home to a variety of species such as the pine pheasant, barking deer, leopard, ghoral and sambar.
- ❖ It is spread over 110 sq. km.
- ❖ The park is also home to a variety of birds. Cheer pheasant and kalij pheasant are the most popular birds that can be sighted in the sanctuary.
- ❖ Golden eagle and grey headed flycatcher can also be seen flying.

### 19.13 EYE BANKS IN THE STATE

- ❖ In the state, there are only two eye banks in the districts of Kangra and Shimla.
- ❖ Other than two out of 12 districts medical colleges of Himachal, there are no eye banks at district level.
- ❖ However, eye donation fortnight is organized every year in the districts under the National Blindness and Visual Impairment Control Program in Himachal.

### 19.14 LT GEN DHILLON TO CHAIR BOARD OF IIT-MANDI

- ❖ Lt Gen Kanwal Jeet Singh Dhillon (ret'd) has been appointed as the chairperson of the Board of Governors (BoG) of Indian Institute of Technology (IIT), Mandi, Himachal Pradesh, for a period of three years commencing August 25.
- ❖ Lt Gen Dhillon commanded the 15 Corps during the period when the Balakote air strikes took place in February 2019 and at the time of abrogation of Article 370 and 35A in August 2019.

### 19.15 KATH-KUNI TECHNIQUE

- ❖ The **age-old vernacular architecture of the hills** — created out of local materials with simple, sustainable building techniques — has endured against the incessant rainfall the state has faced this season.
- ❖ Vernacular architecture is “**spontaneous, uncultivated, anonymous, indigenous and popular**”.
- ❖ It is a built environment that is **based on local needs**; defined by the **availability of materials indigenous** to the particular region; and it **reflects local traditions and cultural practices**.

#### ABOUT KATH-KUNI TECHNIQUE

- ❖ For **bigger buildings like palaces or temple complexes**, an ingenious structural system called **kath-kuni** — that **had an alternate layering of wood and stone** — was employed.
- ❖ This **indigenous style of construction evolved in the western Himalayas**.
- ❖ In the **kath-kuni style**, a **mesh of interlocking horizontal deodar sleepers is created** into which **dressed or raw stones are packed without any mortar**.
- ❖ **Examples-**
  - ✓ The iconic ancient structures like the **Bhimakali temple complex in Sarahan** are prime examples of the kath-kuni technique.
  - ✓ It was **constructed by the rulers of the Bushahr dynasty**.
  - ✓ Around 800 years old, the **temple is dedicated to the great female power, Bhimakali**, and has survived numerous earthquakes owing to its structural resilience.
  - ✓ Also, Raja Sidh Singh got the **Naggar Castle built near Kullu** about **five centuries ago in the same kath-kuni technique**. It withstood the massive earthquake in 1905. The resilience lies in the **flexibility of dry masonry and alternate layers of wood beams without any cementing material**.

### 19.16 STATE TIES UP WITH FRANCE ON RS 890-CR DISASTER REDUCTION PLAN

- ❖ The **Himachal Pradesh Government has prepared a Rs 890-crore ‘disaster risk reduction and preparedness programme’** in **collaboration with the Agence Francaise de Developpement (AFD)** to enhance **disaster preparedness and climate resilience**.
- ❖ This will include-
  - ✓ **Main aim is to usher in a comprehensive approach to disaster, counter climate change.**
  - ✓ **Emergency operation centres will be set up in all districts.**
  - ✓ **Climate change vulnerability assessment for all river basins**
  - ✓ **Early warning systems for landslides and flashfloods**
- ❖ Other initiatives include **the development of early warning systems for landslides, flash floods, cloudbursts, glacial lake outburst floods and dam safety**.



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