

# Current Affairs MONTHLY

MARCH 2023

By  
CivilsTap Himachal



**For HPAS & Other  
Competitive  
Exam in  
Himachal Pradesh**

**Prelims**

+91 7814622609

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CivilsTap Himachal

## 1. POLITY

### 1.1. APPOINTMENT OF GOVERNORS.

New governors were appointed in Arunachal Pradesh, Sikkim, Jharkhand, HP, Assam, AP Chhattisgarh, Manipur, Nagaland, Meghalaya, Bihar, Maharashtra and Ladakh (UT).

#### ABOUT GOVERNOR:

Article 153 of the Constitution says "There shall be a Governor for each State".

- ❖ He/she is the Chief Executive Head of a State.
- ❖ The governor is a nominal (titular or constitutional) head.
- ❖ Acts as an agent of the central government.

#### APPOINTMENT

- ❖ Under Article 155, The Governor of a State shall be appointed by the President by warrant under his hand and seal.
- ❖ Under Article 156, the Governor shall hold office during the pleasure of the President. The Governor has no security of tenure.
- ❖ Article 157 and 158 lay down qualifications and terms of office of Governor
  - ✓ Must be a citizen of India and should have completed age of 35 years.
  - ✓ Governor should not be a member of Parliament or a state legislature, and must not hold any other office of profit.

#### FUNCTIONS

- ❖ **Article 163** of the Constitution says the Governor will normally be aided and advised by the Council of Ministers except in those functions which require his discretion.
- ❖ **Article 164** of the constitution says the Chief Minister shall be appointed by the Governor and the other Ministers shall be appointed by the Governor on the advice of the Chief Minister, and the Ministers shall hold office during the pleasure of the Governor.
- ❖ **Powers-**
  - ✓ Under **Article 161** the Governor of a State shall have the power to grant pardons, reprieves, respites, or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.

#### Legislative Powers:

- ❖ The Governor has the power to prorogue and dissolve the state legislature.
- ❖ With respect to the bill introduced in the state legislature, he can give his assent, withhold his assent, return the bill, and reserve the bill for President's consideration.

#### Executive Powers:

- ❖ All Executive actions in the state by the government are taken in his name.
- ❖ The Chief Minister and Council of Ministers are appointed by him.
- ❖ The Governor appoints the State Election Commissioner, Chairman and members of the State Public Service Commission, Advocate General of State, and Vice-Chancellor of Universities.
- ❖ The President of India imposes President's rule in any state on the recommendation of the Governor of the concerned state.

### 1.2. BIMARU STATES.

Recently, the Prime Minister used the BIMARU term in the context of Rajasthan and Uttar Pradesh states.

#### More on the news

- ❖ The 'BIMARU' acronym has been used to refer to Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh, to imply they have lagged in terms of economic growth, healthcare, and education.
- ❖ The term was used to highlight the backwardness, especially with regard to poor performance in demographic indicators and contribution to population explosion.

- ❖ These states had exceptionally high levels of mortality, morbidity, illiteracy, fertility, undernutrition, and social inequality and lagged behind in per capita income.
- ❖ It was **coined by Ashish Bose in 1980** to pinpoint India's demographic malady.
- ❖ Bose mainly argued that from a family planning and population control perspective, these four states, with their high population growth rates were likely to offset the gains made elsewhere in the country.
- ❖ BIMARU states accounted for 41 percent of India's total population in 2001 and will account for 43.5 percent in 2026 which has political and economic implications.
- ❖ The national goal of reaching a "stabilising population", meaning a Total Fertility Rate (TFR) of 2.1 was achieved recently.
  - ✓ However, these states lag far behind.

### 1.3. DEMAND FOR GREATER TIPRALAND BY THE TIPRA MOTHA.

Demands for greater TIPRALAND rises in the ongoing elections preparations in Tripura.

#### MORE ON THE NEWS

- ❖ The **Tipraha Indigenous Progressive Regional Alliance (TIPRA Motha)** chief **Pradyot Kishore Debbarma** has recently launched the party's **election manifesto for the upcoming Tripura Assembly polls, in Agartala.**
- ❖ TIPRA Motha is the **newest political party** in Tripura and is **led by Pradyot Bikram Manikya Debbarma**, the son of Tripura's last king.
- ❖ The party's **first electoral attempt** in the Tripura Tribal Areas Autonomous District Council (TTAADC) elections in 2021 **was successful, securing 18 of 28 seats.**
- ❖ The demand for Greater Tipraland has **polarized the relationship** between the tribals and non-tribals in Tripura.

#### ABOUT GREATER TIPRALAND

- ❖ It is the **area demanded by TIPRA Motha** which aims to carve out a **new state "Greater Tipraland"** for the **19 indigenous tribes of Tripura** under Articles 2 and 3 of the Constitution.
  - ✓ **Articles 2 and 3** authorize the Parliament for **creation of new states and alter the areas, boundaries or names of existing states** from the territories **of an existing state or states.**
- ❖ The new state would **go beyond the TTAADC areas** and **include several other villages** where the Tiphra reside in large numbers.

### 1.4. NIKOS CHRISTODOULIDES ELECTED AS NEW PRESIDENT OF CYPRUS.

- ❖ Nikos Christodoulides was elected as the President of Cyprus after a second and final round of voting.
- ❖ Christodoulides ran as an independent with the backing of centrist and right-of-center parties and is former Foreign Minister of the country.

### 1.5. VACANT POST OF DEPUTY SPEAKER.

- ❖ Supreme Court issued notices to Centre and five states (Rajasthan, Uttarakhand, Madhya Pradesh, Uttar Pradesh, and Jharkhand) over the failure to elect Deputy Speaker.
- ❖ The Deputy Speakers of the Lok Sabha and state assemblies are constitutional offices.
  - ✓ As per convention, Deputy Speaker is from the Opposition.
- ❖ Article 93 of the Constitution of India establishes the post of the Deputy Speaker of Lok Sabha.
- ❖ Articles 94-96 detail their appointment, removal, and powers.
- ❖ In the absence of the Speaker, the Deputy Speaker serves as the Speaker and wields full powers of the Speaker.
- ❖ The election to the post of Deputy Speaker takes place after the Speaker has been elected.
  - ✓ There has been no Deputy Speaker in the current Lok Sabha since 2019.
- ❖ The Deputy Speaker is not subordinate to the Speaker and is directly responsible to the House.
- ❖ Article 178 of the Constitution establishes the post of Deputy Speaker of assemblies and Articles 179-181 deal with their powers and appointment or resignation.

### 1.6. ECI DECISION ON PARTY NAMES AND SYMBOLS.

- ❖ ECI decision on party name and party symbol for Shiv Sena in Maharashtra has become an issue.

- ❖ Article 324 read with Election Symbols (Reservation and Allotment) Order, 1968 empowers ECI to recognise political parties and allot symbols.
- ❖ In Sadiq Ali Case (1971), Supreme Court upheld **ECI's authority to decide issues on a dispute or a merger and prescribed 3 tests to arrive at a decision:**
  - ✓ Test of Aims and Objectives of the Party Constitution.
  - ✓ Test of party constitution
  - ✓ Test of Majority
- ❖ In line with Sec 29A of Representation of the People Act, 1951 and Election Symbols Order, 1968, ECI recognizes a Political Party and allocates symbol to it.
  - ✓ **Recognised National Parties:** These parties are allocated with a symbol, which can be used across the country in all elections. No other parties can use them.
  - ✓ **Recognised State Parties:** These parties are allocated with an exclusive symbol within the state.
  - ✓ **Independent Candidates:** They can choose **3 Symbols in order of their preference** (other than national and state party's symbol).

### 1.7. LAW COMMISSION TERM EXTENDED.

- ❖ The Union Cabinet approved extension of the term of 22nd Law Commission up to August 31, 2024.
- ❖ The three-year term of the Commission headed by former Karnataka High Court Chief Justice Rituraj Awasthi ended on February 20. Justice Awasthi was appointed chairperson in November last year.

#### ABOUT LAW COMMISSION

- ❖ It is a non-statutory body.
- ❖ First law commission of independent India was constituted in 1955 and is re-constituted from time to time.
- ❖ **It will consist of:**
  - ✓ A full-time Chairperson.
  - ✓ Four full-time Members (including Member-Secretary).
  - ✓ Secretary, Department of Legal Affairs and Legislative Department as ex officio Members.
  - ✓ Not more than five part-time Members.
- ❖ **Mandate includes:**
  - ✓ Identification of laws which are no longer relevant and recommending for the repeal of obsolete and unnecessary enactments;
  - ✓ Suggesting enactment of new legislations as may be necessary to implement the directive principles and to attain the objectives set out in the preamble of the constitution;
  - ✓ Considering and conveying to the government its views on any subject relating to law and judicial administration that may be specifically referred to it by the government through ministry of law & justice (department of legal affairs);
  - ✓ Performing such other functions as may be assigned to it by the central government from time to time.

### 1.8. KERALA HC PUBLISH JUDGMENT IN REGIONAL LANGUAGE.

- ❖ On February 21, also known as International Mother Language Day, the Kerala High Court published two of its most recent decisions in Malayalam, making it the first high court in the nation to do so.
- ❖ On the court's website, the Malayalam decisions were posted right underneath the English version.

### 1.9. COMPTROLLER AND AUDITOR GENERAL IS EXTERNAL AUDITOR OF ILO.

- ❖ Recently India's Comptroller and Auditor General has been selected as External Auditor of the International Labour Organization (ILO) in Geneva for a four-year term from 2024 to 2027.

#### ABOUT CAG

- ❖ CAG is an independent authority under the Constitution of India.
- ❖ Articles 148 – 151 of the Constitution of India deal with the institution of the CAG of India.
- ❖ The CAG enjoys the same status as a sitting judge of the Supreme Court of India in order of precedence.
- ❖ He is the head of the Indian audit & account department.
- ❖ It is the institution through which the accountability of the government and other public authorities to Parliament and State Legislatures is ensured.

### ABOUT INTERNATIONAL LABOUR ORGANIZATION (ILO)

- ❖ The International Labour Organization was established in 1919 under the League of Nations and was integrated into the United Nations as an exclusive agency in 1946.
- ❖ The ILO brings together governments, employers, and workers of 187 member States, to set labour standards, develop policies and devise programs promoting decent work for all women and men.
- ❖ Objective-to promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues.
- ❖ India has ratified about **six out of the eight core/fundamental ILO conventions**. They are:
  - ✓ Forced Labour Convention (No. 29)
  - ✓ Abolition of Forced Labour Convention (No.105)
  - ✓ Equal Remuneration Convention (No.100)
  - ✓ Discrimination (Employment Occupation) Convention (No.111)
  - ✓ Minimum Age Convention (No.138)
  - ✓ Worst forms of Child Labour Convention (No.182)
- ❖ India still needs to ratify the two main core/fundamental conventions:
  - ✓ The protection of the Right and Freedom of Association to Organise Convention, 1948 (No. 87)
  - ✓ The Right to Organise and Collective Bargaining Convention, 1949 (No. 98)



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## 2. NATIONAL NEWS

### 2.1. MINISTRY OF EDUCATION RELEASES ALL INDIA SURVEY ON HIGHER EDUCATION.

- ❖ The **Union Ministry of Education** released data from the **All-India Survey on Higher Education (AISHE), 2020-2021**, which showed a **7.5% increase in student enrolments** across the country compared to **2019-20**.
- ❖ The survey also revealed that in 2020-21, the year when the **Covid-19 pandemic** began, there was a **7% rise in enrolments in distance education programmes**.

#### ABOUT AISHE

- ❖ **Ministry of Education** has endeavored to conduct an **annual web-based AISHE** since 2010-11.
- ❖ Data is collected on several parameters such as teachers, student **enrolment, programmers, examination results, education finance, infrastructure**.
- ❖ Indicators of educational development such as **Institution Density, Gross Enrolment Ratio, Pupil-teacher ratio, Gender Parity Index, Per Student Expenditure** will also be calculated from the data collected through AISHE.
  - These are useful in making informed policy decisions and **research for development of the education sector**.

#### HIGHLIGHTS OF THE AISHE DATA

- ❖ **Student Enrolment:**
  - ✓ **Gross Enrolment Ratio (GER)** for all enrolments (as per 2011 Census) increased by over **2 points to 27.3**.
    - The **highest enrolment was seen at the undergraduate level**, which accounted for **78.9%** of all enrolments.
  - ✓ The **female enrolment in higher education** programmes had increased to **49% of total enrolments in 2020-21** compared to 45% in 2019-20.
    - But, the overall figures for **science, technology, engineering, and mathematics (STEM)** enrolments (at all levels of **higher education**) showed that women lagged behind men, who accounted for over 56% of enrolments in these fields.
  - ✓ **Gender Parity Index (GPI)**, the ratio of female GER to male GER, has increased from 1 in 2017-18 to 1.05 in 2020-21.
  - ✓ The number of students in the **Persons with Disabilities category** dropped in **2020-21** to 79,035 from 92,831 in 2019-20.
  - ✓ The **proportion of Muslim students** enrolling for higher education dropped to **4.6% in 2020-21** from **5.5% in 2019-20**.
  - ✓ **Uttar Pradesh; Maharashtra; Tamil Nadu; Madhya Pradesh; Karnataka and Rajasthan** are the top 6 States in terms of number of students enrolled.
- ❖ **Universities and College:** During **2020-21**, the number of **universities has increased by 70**, and the number of **colleges has increased by 1,453**.
  - ✓ **Uttar Pradesh; Maharashtra; Karnataka; Rajasthan; Tamil Nadu; Madhya Pradesh; Andhra Pradesh and Gujarat** are the top 8 States in terms of number of colleges.
- ❖ **Faculty:** The female per 100 male faculties has improved to 75 in 2020-21 from 74 in 2019-20 and 63 in 2014-15.

### 2.2. ADVISORY TO TELECAST "PUBLIC SERVICE CONTENT" RELEASED BY MINISTRY OF INFORMATION AND BROADCASTING

- ❖ The guidelines were stipulated in the new uplinking-downlinking rules prescribed by the ministry on November 9 last year. The fresh advisory was issued after consultations with private satellite television channels and their associations.

#### KEY FEATURES CONTENT

- ❖ Channel will undertake public service broadcasting for a minimum period of 30 minutes in a day on themes of national importance and of social relevance like education, welfare of women, protection of environment and of cultural heritage etc.
- ❖ Broadcasters have the liberty to modulate their content.
- ❖ Content can be shared between the Broadcasters.

#### ACCOUNTING OF TIMING

- ❖ Channels will be required to air national interest content for 15 hours every month.

- ❖ Content need not be of 30 minutes at a stretch it can be split over smaller time slots, but can't be done from midnight to 6 am.

#### REPORTING

- ❖ Voluntary compliance and self-certification would be the guiding principles.
- ❖ Broadcasters shall submit a monthly report on the Broadcast Seva Portal by the 7th of the following month.
- ❖ Exemptions
  - ✓ Foreign channels, downlinking in India (in languages other than those specified in the Eighth schedule of Constitution).
  - ✓ Channels broadcasting predominantly (more than 12 hours) sports and devotional, spiritual, yoga content will be exempt from furnishing the monthly reports.

#### Identification

- ❖ Electronic Media Monitoring Centre under Ministry shall keep the record of the content telecast for a period of 90 days.

### 2.3. ONLY FAMILY COURTS CAN ISSUE *Khula* DIVORCE CERTIFICATES TO MUSLIM WOMEN, MADRAS HIGH COURT RULES.

- ❖ Madras HC quashed a *Khula* (divorce) certificate issued to a woman by Shariat Council of Tamil Nadu. It has ruled that *Khula* certificates issued by private bodies are invalid in law.
- ❖ The private bodies such as the Shariat Council, cannot pronounce or certify dissolution of marriage by *Khula*. They are not courts or arbitrators of disputes, the judge said.
- ❖ HC asserted that only judicial forums were empowered to pass a decree to dissolve a marriage under Section 7(1)(b) of Family Courts (FC) Act, 1984.

#### ABOUT FAMILY COURTS

- ❖ **Establishment of Family Courts:**  
The Family Courts Act, 1984 was enacted for the establishment of Family Courts with a view to promote conciliation, and secure speedy settlement of disputes relating to marriage and family affairs and for related matters.
- ❖ **Appointment of Judges:**  
The State Government may, with the concurrence of the High Court, appoint one or more persons to be the Judge or Judges of a Family Court.
- ❖ **Association of Social Welfare Agencies:**  
The State Government may provide with a Family Court of:
  - Institutions or organisations engaged in social welfare.
  - Persons professionally engaged in promoting the welfare of the family.
  - Persons working in the field of social welfare.
  - Any other person whose association with a Family Court would enable it to exercise its jurisdiction more effectively in accordance with the purposes of this Act.

### 2.4. DELHI CHILD RIGHTS BODY LAUNCHES WHATSAPP CHATBOT SERVICE 'BAL MITRA'.

- ❖ It is a WhatsApp chatbot launched by Delhi Commission for Protection of Child Rights.
  - ✓ Chatbot is a computer program that uses artificial intelligence (AI) and natural language processing (NLP) to understand customer questions and give responses to them.
- ❖ It will enable communication between people and the child rights panel.
- ❖ It aims to provide authentic information on various matters related to children and their rights, and ensure confidentiality of the matters reported through it.
- ❖ Features include complaint registration, searching information and tracking complaint status etc.

### 2.5. MoHUA SIGNS MOU TO DEVELOP WASTE TO WEALTH PLANTS IN MILLION PLUS CITIES.

- ❖ The Ministry of Housing and Urban Affairs (MoHUA) and Engineers India Limited (EIL) have signed a Memorandum of Understanding (MoU) to build waste-to-energy and bio-methanation projects in million plus cities as part of India's "Green Growth" agenda.



- ❖ Focusing on this objective, MoHUA has decided to set up large-scale solid waste processing facilities in million plus cities.
  - ✓ There are 59 million plus cities in India like Bengaluru, Pune, Hyderabad, Lucknow, Kanpur, Nasik, Thane, Nagpur, Gwalior, Chennai, Madurai, Coimbatore to name a few. These cities are home to nearly 600 million people, which is approximately half of India's urban population.
- ❖ In the first phase, 25 million plus cities will be selected for developing large-scale process plants.
- ❖ EIL will assist and handhold the million plus cities in developing such projects for larger quantum of waste integrating circularity in waste management.
- ❖ Waste to Energy and bio-methanation projects will integrate the concept of circularity in waste management by producing green energy from dry and wet waste components of municipal solid waste.
  - ✓ The by-products such as electricity and Bio-CNG will also help in achieving sustainability of waste management operations.
- ❖ Bio-methanation is anaerobic digestion of organic materials which is converted into biogas, containing mostly methane (-60%), and carbon dioxide (-40%). In addition to this, WTE uses technologies like incineration, gasification and pyrolysis.
- ❖ Under the 'Green Growth' segment of Union Budget 2023-24, 500 new Waste to Wealth plants will be established under the GOBARdhan scheme.

#### **ABOUT GOBAR (GALVANIZING ORGANIC BIO-AGRO RESOURCES)-DHAN SCHEME**

- ❖ It is being implemented as part of Swachh Bharat Mission (Gramin) under Ministry of Drinking water and Sanitation.
- ❖ It focuses on managing and converting cattle dung and solid waste on farms into compost, biogas, and bio-CNG.
- ❖ Swachh Bharat Mission-Urban 2.0 also aims at creating garbage-free cities and has provisions for bio-methanation plants linked to GOBARdhan and SATAT schemes.
  - ✓ **Sustainable Alternative Towards Affordable Transportation (SATAT) initiative** envisages setting up of 5000 Compressed Biogas (CBG) plants for production of 15 Million Metric Ton (MMT) per annum of CBG by 2023-24.
    - It has been launched in 2018 by the Ministry of Petroleum and Natural Gas.

#### **2.6. PARIS CLUB LIKELY TO PROVIDE FINANCIAL ASSURANCES TO IMF ON SRI LANKA DEBT.**

- ❖ The Paris Club, an informal group of creditor nations, will provide financial assurances to the International Monetary Fund on Sri Lanka's debt, Reuters has reported.
- ❖ It is one of the conditions that Sri Lanka has to fulfil for the IMF to begin disbursing a \$2.9 bn bailout package to the beleaguered nation that all but collapsed last year under a severe economic crisis.

#### **WHAT IS THE PARIS CLUB?**

- ❖ The Paris Club is a group of mostly western creditor countries that grew from a 1956 meeting in which Argentina agreed to meet its public creditors in Paris. Their objective is to find sustainable debt-relief solutions for countries that are unable to repay their bilateral loans.
- ❖ All 22 are members of the group called Organisation for Economic Co-operation and Development (OECD).
  - India and China are not members.

#### **2.7. COMMITTEE SEEKS SC DIRECTIONS FOR EXPEDITING UNDERGROUND LAYING OF TRANSMISSION LINES.**

- ❖ A committee constituted by the Supreme Court on saving the Great Indian Bustard (GIB) has urged the apex court to pass directions for expediting the underground laying of power transmission lines in priority and potential GIB habitats in Rajasthan and Gujarat.
- ❖ SC had constituted a 3- member committee to determine technical feasibility of future underground power lines.
- ❖ Committee recommended to install bird diverters which are flaps installed on power lines that work like reflectors and are visible to flying birds from about 50 metres away.
- ❖ In 2021, SC directed the power companies that all low-voltage power lines in areas demarcated as "priority and potential habitats of GIB" in Thar and Kutch deserts of Rajasthan and Gujarat should be underground.
  - ✓ "Priority zones" are areas where birds are known to live and "potential regions" are those where conservation programmes, such as breeding birds in captivity, are ongoing.
- ❖ However, state governments have not taken steps to comply with SC order as shifting overhead lines underground is expensive and impractical, and would hike the cost of solar power, undermining India's commitment to green growth.

### ABOUT GREAT INDIAN BUSTARD

- ❖ **Habitat:** Endemic to Indian Sub-continent (Rajasthan has highest population). Arid and semi-arid grasslands, open country with thorn scrub, tall grass interspersed with cultivation.
- ❖ **IUCN Status:** Critically Endangered.
- ❖ **Protection:** Listed in Schedule I of Wildlife (Protection) Act, 1972, Appendix I of CITES.
- ❖ **Threats to GIB:** Hunting, habitat erosion, 'greening' projects that transform arid grasslands to wooded areas, etc.

## 2.8. PRESIDENT APPOINTS FIVE NEW JUDGES TO SUPREME COURT (SC) AFTER CENTRE'S APPROVAL

- ❖ President Droupadi Murmu recently appointed five new Judges to the Supreme Court after the Centre cleared the proposal by the Collegium that was shared in December last year.
- ❖ With these appointments, working strength of SC will rise to 32 against **sanctioned strength of 34**.
  - ✓ Sanctioned strength is prescribed by law made by Parliament (Article 124 (1)).
- ❖ Chief Justice of India (CJI) and Judges of SC are appointed by President under Article 124 (2) of Constitution on the basis of Memorandum of Procedure (MoP).
- ❖ Under MoP, Union Minister of Law, Justice and Company Affairs consider the recommendations forwarded by CJI. Collegium system is the way by which judges of SC and HC are appointed and transferred.
- ❖ SC collegium is a **five member body**, which is headed by incumbent CJI and comprises four other senior most judges of the court at that time. Collegium system has evolved with the three Judges cases.

## 2.9. PM LAYS DOWN FOUNDATION STONE OF SOUTH INDIA'S 1ST INDUSTRIAL CORRIDOR PROJECT AT TUMAKURU.

- ❖ It spans around 8,500 acres of land and is being built part of the Chennai Bengaluru Industrial Corridor (CBIC) as part of National Industrial Corridor Programme (NICP).
  - ✓ The project for Tumakuru node was approved by government of India on 30 December 2020. The node has been targeted for development, with a 1,736.20-acre priority development area defined.
- ❖ The CBIC project includes the construction of industrial townships in three locations: Krishnapatnam (Andhra Pradesh), Tumakuru (Karnataka), and Ponneri (Tamil Nadu).

### CHENNAI BENGALURU INDUSTRIAL CORRIDOR (CBIC)

- ❖ It is being planned to achieve accelerated development and regional industry agglomeration in the states of Tamil Nadu, Karnataka and Andhra Pradesh.
- ❖ CBIC proposes to address the infrastructure bottlenecks through a holistic approach while benefiting from the inherent strengths and competitiveness of each state. Accordingly, high impact/market driven nodes are proposed to be developed at strategic locations within the corridor, to provide transparent and investment friendly facility.
- ❖ These regions are proposed to be self-sustained nodes with world-class infrastructure, road and rail connectivity for freight movement to and from ports and logistics hubs, served by reliable power, quality social infrastructure and provide a globally competitive environment conducive for setting up businesses.

### ABOUT NATIONAL INDUSTRIAL CORRIDOR PROGRAMME (NICP)

- ❖ NICP aims to promote world class manufacturing facilities and develop futuristic industrial cities in India. Broad objective is to provide plug and play infrastructural facilities for setting up large scale manufacturing units.
- ❖ Delhi Mumbai Industrial Corridor was the first corridor taken up for development in 2011.
  - ✓ Subsequently, Amritsar- Kolkata, CBIC, Vizag-Chennai, East Coast etc. were added.

### IMPORTANT FEATURES OF NICP

- ❖ Land parcels are developed for immediate allotment to manufacturing units.
- ❖ Statutory clearances including environment clearance are being taken beforehand.
- ❖ National Industrial Corridor Development & Implementation Trust (NICDIT) for unified development.

## 2.10. NCST FUNCTIONING WITH LESS THAN 50% OF SANCTIONED STRENGTH.

The recent data presented by the Ministry of Tribal Affairs (MoTA) revealed that the National Commission for Scheduled Tribes (NCST) is currently functioning with less than 50% of its sanctioned strength.

### NATIONAL COMMISSION FOR SCHEDULE TRIBES

- ❖ NCST was set up in 2004 by amending Article 338 and by inserting a new article 338A in the Constitution through the 89th Constitution Amendment Act, 2003. Hence, it is a constitutional body.
  - ✓ By this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was replaced by two separate Commissions i.e the National Commission for Scheduled Castes (NCSC), and the National Commission for Schedule Tribes (NCST).
- ❖ **Article 338A** inter-alia gives powers to the NCST to oversee the implementation of various safeguards provided to Scheduled Tribes (STs) under the Constitution or under any other law for time being in force or under any other order to the Government and to evaluate the working of such safeguards.
- ❖ **Composition-** Chairperson, a Vice-Chairperson and 3 other Members, appointed by the President by warrant under his hand and seal. At least one member should be a woman.
- ❖ **Tenure-** 3 years; Members are not eligible for appointments for more than two terms
- ❖ The Chairperson has been given the rank of Union Cabinet Minister, the Vice Chairperson has the rank of a Minister of State and other Members have the rank of Secretary to the Government of India.

### DUTIES AND FUNCTIONS OF THE NCST

- ❖ To investigate and monitor all matters relating to the safeguards provided for the STs under the Constitution or under any other law for the time being in force or under any order of the Government.
- ❖ To inquire into specific complaints with respect to the deprivation of rights and safeguards of the STs.
- ❖ To participate and advise in the planning process of the socio-economic development of the STs and to evaluate the progress of their development.
- ❖ The Commission shall provide reports on the operation of those safeguards to the President annually and as necessary.
- ❖ To make in such reports recommendations as to the measures that should be taken by the Union or any State for effective implementation of those safeguards.
- ❖ The President, subject to the provisions of any law made by Parliament, may, by rule, discharge any other functions relating to the protection, welfare, development, and advancement of the STs.

### CONSTITUTIONAL PROVISIONS:

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

## 2.11. VIOLENCE RELATED TO LEFT WING EXTREMISM DOWN BY 76% IN 2022 AS COMPARED TO 2010- HOME MINISTER.

The Home Minister, while chairing the meeting of the Parliamentary Consultative Committee on LWE, gave details about Left Wing Extremism.

### MORE ON THE NEWS

- ❖ For the first time in four decades, the number of deaths of civilians and security forces in Left Wing Extremism (LWE) came down to under 100 in 2022.
- ❖ Left Wing Extremism has come down by 76% in 2022 as compared to 2010.
- ❖ MHA's policy to deal with LWE has three main pillars:
  - ✓ Strategy to curb extremist violence with ruthless approach,
  - ✓ Better coordination between Centre and states, and
  - ✓ Eliminating support for LWE through public participation in development.

#### ❖ **Strengthening Armed Forces:**

- ✓ **New camps:** Sharing details of the measures taken by the Ministry of Home Affairs, he said since 2019, the armed forces had established 175 new camps to plug the security vacuum in the LWE-infested zones.
- ✓ **BSF Air Wing:** The BSF air wing has been strengthened with the induction of new pilots and engineers in the last one year to aid operations in LWE-affected areas.
- ✓ **Police stations:** Funds were also provided to the State police forces for modernisation and assistance related to construction of fortified police stations.

#### **LEFT-WING EXTREMISM (LWE) IN INDIA**

- ❖ Left-wing extremists, popularly known as Maoists worldwide and as Naxalites/Naxalism in India, has been a major threat to India since the 1960s. The term Naxalism derives from the name of the Naxalbari village in West Bengal where a peasant revolt took place against local landlords over a land dispute in 1967.
- ❖ **Red Corridor:** The influence zone of LWE in India is called the Red corridor, which has been steadily declining in terms of geographical coverage and number of violent incidents.

#### **GOVERNMENT'S INITIATIVES**

- ❖ As part of the goal to ensure all-round development in the affected areas, several special schemes were being implemented apart from the flagship programmes of the Central government.
  1. **SAMADHAN doctrine:** It is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for-
  2. **ROSHNI:** It is a special initiative under, Pandit Deen Dayal Upadhyaya Grameen Kaushalya Yojana (Formerly Ajeevika Skills), launched in June 2013 for training and placement of rural poor youth from 27 LWE-affected districts in 09 States.
  3. Intelligence sharing and raising of a separate 66 Indian Reserved Battalion(IRBs), CRPF battalions like COBRA battalion, Bastariya battalion etc were done by the government to curb the menace of LWE organizations.
  4. Improvements in Road Connectivity and Mobile connectivity and opening of Banks, ATMs & Post offices
  5. Eklavya Residential Model School: So far, 245 Eklavya schools had been sanctioned in 90 LWE-affected districts and 121 of them were now functional.

### **2.12. ELECTRICITY MARKET REPORT 2023 RELEASED.**

- ❖ It is released by International Energy Agency (IEA).
- ❖ Observations
  - ✓ World electricity demand remained resilient in 2022 amid global energy crisis triggered by Russia's invasion of Ukraine.
  - ✓ Renewables and nuclear energy will dominate growth of global electricity supply over next three years, meeting more than 90% of additional demand.
  - ✓ India Specific findings
    - Demand growth to rise close to 5.6% on average per year during 2023-2025.
    - Gas-fired output fell by 36% in 2022 due to higher imported gas prices.
    - Because of higher coal-fired generation, total power generation CO2 emissions rise by 8% from 2022 levels by 2025, despite falling CO2 intensity.

#### **ABOUT INTERNATIONAL ENERGY AGENCY**

- ❖ It is an autonomous Intergovernmental Organisation established in 1974 in Paris, France.
- ❖ It mainly focuses on its energy policies which include economic development, energy security and environmental protection. These policies are also known as the 3 E's of IEA.
- ❖ Established in the wake of the oil crisis of 1973-1974, to help its members respond to major disruptions in oil supply.
- ❖ **Mission:** Ensure reliable, affordable and clean energy for its member countries and beyond.
- ❖ **Focus Areas:** Energy Security, Economic Development, Environmental Awareness, Engagement Worldwide.
- ❖ **Major Reports:**
  - ✓ World Energy Outlook Report.
  - ✓ World Energy Investment Report.
  - ✓ World Energy Statistics.
  - ✓ World Energy Balances.
  - ✓ Energy Technology Perspectives.
  - ✓ India Energy Outlook Report.

### 2.13. DNA PROFILING.

- ❖ Recently The Supreme Court held that children should be subjected to DNA tests only as a last resort for establishing infidelity.
- ❖ Supreme Court observed that Courts should mind that children are not material objects to be subjected to forensic/DNA testing, particularly when they are not parties to the divorce proceedings.
- ❖ The rights of privacy, autonomy and identity of children are recognised under the United Nations' Convention on the Rights of the Child. A child's genetic information is part of his fundamental Right to privacy.

#### DNA PATERNITY TEST

- ❖ DNA is the genetic material children inherit from their parents.
- ❖ DNA paternity testing uses DNA profiles to determine whether an individual is the biological parent of a child.
- ❖ A 24-marker DNA profile of the parent and child is compared to identify biological parents.



CivilsTap Himachal

### 3. INTERNATIONAL, SUMMITS

#### 3.1. INAUGURAL ICET DIALOGUE HAS POTENTIAL TO TAKE INDIA-US RELATIONSHIP TO NEXT LEVEL- EXPERTS

- ❖ ICET stands for Initiative On Critical And Emerging Technologies
- ❖ ICET is a unique initiative led by the Indian National Security Council Secretariat (NSCS) and the U.S. National Security Council (NSC).
- ❖ It aims to expand partnership in critical and emerging technologies.
- ❖ Six areas of cooperation- Scientific research and development, Quantum and artificial intelligence, Defense innovation, Space, Advanced telecom include things like 6G, Semiconductors

##### SIGNIFICANCE OF ICET

- ❖ Vital for India's growing role as a trusted supply chain partner and contributor in the global technology value chain.
- ❖ Deals directly with disruptive domains which are central to the next Industrial Revolution and future warfare.
- ❖ Open new markets for India's deep technology players. Potentially opens the door for the US to lift existing export control restrictions.

##### MEASURES TO STRENGTHEN ICET

- ❖ Introduce an advisory council/steering committee by including industry representatives, technologists, philanthropists, academics etc.
- ❖ Regular high-level meetings.
- ❖ ICET fellowship and connector fund created.

#### 3.2. PM LAUDS UTILISATION OF INDIA-UAE CEPA BY INDIAN EXPORTERS.

- ❖ India-UAE Comprehensive Economic Partnership Agreement (CEPA) is the first deep and full free trade Agreement (FTA) signed by India with any country in the past decade.
  - ✓ It officially entered into force in May 2022.
  - ✓ It covers Trade in Goods, Rules of Origin, Trade in Services, Technical Barriers to Trade (TBT), Sanitary and Phytosanitary (SPS) measures, Dispute Settlement etc.
  - ✓ India has already signed a CEPA with Japan and South Korea.

##### SIGNIFICANCE OF CEPA

- ✓ Expected to increase total value of bilateral trade in goods to over US\$100 billion and trade in services to over US\$ 15 billion within five years.
- ✓ Eliminated duties for 90% of India's exports to UAE, covering sectors such as gems and jewellery, textiles, leather, etc.
- ✓ Exports benefiting from India-UAE free trade pact accounted for about 60% of India's total non-oil shipments to UAE.

##### INDIA- UAE RELATIONS

- ❖ UAE is India's third largest trading partner after United States and China and second-largest export destination.
- ❖ UAE has highest number of Indian diasporas contributing high remittances to India.
- ❖ UAE's Nayif-1 nanosatellite has successfully been launched into space by ISRO.

##### TYPE OF TRADE AGREEMENTS

###### FREE TRADE AGREEMENT (FTA):

- ❖ A free trade agreement is an agreement in which two or more countries agree to provide preferential trade terms, tariff concession etc. to the partner country.
- ❖ India has negotiated FTA with many countries e.g. Sri Lanka and various trading blocs as well e.g. ASEAN.

###### PREFERENTIAL TRADE AGREEMENT (PTA):

- ❖ In this type of agreement, two or more partners give preferential right of entry to certain products. This is done by reducing duties on an agreed number of tariff lines.

- ❖ Tariffs may even be reduced to zero for some products even in a PTA. India signed a PTA with Afghanistan.

#### **COMPREHENSIVE ECONOMIC PARTNERSHIP AGREEMENT (CEPA):**

- ❖ Partnership agreement or cooperation agreement are more comprehensive than an FTA.
- ❖ CEPA covers negotiation on the trade in services and investment, and other areas of economic partnership.
- ❖ India has signed CEPAs with UAE, South Korea and Japan.

#### **COMPREHENSIVE ECONOMIC COOPERATION AGREEMENT (CECA):**

- ❖ CECA generally covers negotiation on trade tariff and TRQ (Tariff Rate Quotas) rates only. It is not as comprehensive as CEPA. India has signed CECA with Malaysia.

### **3.3. ARMENIA-AZERBAIJAN CONFLICT- ARMENIA APPEALS TO ICJ.**

- ❖ Armenia appealed to the **International Court of Justice (ICJ) to order Azerbaijan to dissolve the road blockade isolating Nagorno-Karabakh.**
  - ✓ Nagorno-Karabakh is within Azerbaijan but had been **under the control of ethnic Armenian forces since 1994** when a separatist war ended.
- ❖ The **conflict can be traced back to the pre-Soviet era** when the region was at the meeting point of Ottoman, Russian and the Persian empires.
- ❖ The self-declaration of independence by Nagorno-Karabakh in September 1991 in the backdrop of an imminent collapse of the Union of Soviet Socialist Republics (USSR) **resulted in a war between Azerbaijan and Nagorno-Karabakh — supported by Armenia.**

### **3.4. INTERNATIONAL SEABED AUTHORITY (ISA) AND MINISTRY OF EARTH SCIENCES EXCHANGED PMN (POLYMETALLIC NODULES) EXPLORATION EXTENSION CONTRACT.**

- ❖ Contract for same was initially signed in 2002 for a period of 15 years. It was extended by ISA twice for 5 years period, during 2017 and 2022.
- ❖ India has been assigned an area of about 75,000 sq km in Central Indian Ocean Basin (CIOB) for PMN exploration.
- ❖ PMN refers to small potato-like rounded accretions composed of minerals such as manganese, nickel, cobalt, copper and iron hydroxide.
  - ✓ These have immense economic and strategic importance.

#### **About International Seabed Authority**

- ❖ ISA, an autonomous international organisation established under 1982 United Nations Convention on the Law of the Sea, allots 'area' for deep-sea mining.
- ❖ Deep-sea mining is process of retrieving mineral deposits from deep seabed i.e. ocean below 200m.
- ❖ India was first country to receive status of a 'Pioneer Investor' in 1987.
- ❖ Significance of deep sea mining:
  - ✓ Metals extracted from PMN can be used in electronic devices, smartphones, solar panels etc.
  - ✓ By just utilizing 10% of PMN reserve available in allotted area, India can meet its energy requirements for the next 100 years.

### **3.5. DAR-ES- SALAAM DECLARATION -AFRICAN LEADERS COMMIT TO END AIDS AMONG CHILDREN BY 2030**

- ❖ **UN agencies have welcomed a pledge by 12 African countries to end AIDS in children by 2030, announced on Wednesday at a meeting in Dar Es Salaam, Tanzania.**
- ❖ The declaration was announced at the first ministerial meeting of the global alliance to end AIDS in Children, which brings together the 12 African countries with UNAIDS and other health agencies.

#### **CURRENT SITUATION**

- ❖ Currently, around the world, a child dies from AIDS-related causes every five minutes.
- ❖ Roughly half of children living with HIV, 52 per cent, are on life-saving treatment, whereas 76 per cent of adults are receiving antiretrovirals, which the World Health Organization (WHO) has described as "**one of the most glaring disparities in the AIDS response.**"

- ❖ Furthermore, although children comprise just four per cent of people living with HIV, they account for 15 per cent of all AIDS-related deaths.

### 3.6. POWERFUL EARTHQUAKES IN TURKEY AND SYRIA LEAVE OVER 3,800 DEAD.

- ❖ Hit initially by a magnitude 7.8 earthquake, dozens of aftershocks followed the initial quake.
- ❖ The earthquake events are scaled either according to the magnitude or intensity of the shock.
  - ✓ The **magnitude scale** is known as the Richter scale. The magnitude indicates energy released during the quake. It is expressed in absolute numbers 0-10.
  - ✓ The **intensity scale** is named after Mercalli, an Italian seismologist. The intensity scale indicates the visible damage caused by the event. The range of intensity scale is from 1-12.
- ❖ **Location**-Region where earthquake has struck lies along a seismic fault line called **Anatolia tectonic block** that runs through northern, central, and eastern Turkey.
  - ✓ Seismicity in this region is a result of interactions between African, Eurasian, and Arabian plates.
  - ✓ Arabian plate is known to be pushing northward, which results in a slight westward movement for Anatolian plate, where Turkey is located.
- ❖ One of the largest **strike-slip earthquakes** to occur in recent times, it struck along East Anatolian Fault Zone.
  - ✓ **Strike-slip faults** are vertical (or nearly vertical) fractures where blocks have mostly moved horizontally.
  - ✓ In these faults, two plates move parallel but in opposite direction from one another.
- ❖ Turkey bridges continents of Europe (via. Eastern Thrace) and Asia (via. Anatolian Plateau); divided by Dardanelles, Sea of Marmara, and Bosphorus Strait.

### 3.7. OPERATION DOST.

- ❖ India, under 'Operation Dost' has sent its sixth plane carrying National Disaster Response Force (NDRF) personnel, essentials, and medical equipment for the earthquake-hit Turkey.
- ❖ The 6th flight carries more rescue teams, dog squads, and essential medicines. A field hospital under Operation Dost has been set up by the Indian Army in Hatay province of Turkey.
- ❖ India has also sent a transport aircraft with medical supplies to Syria.
- ❖ Operation Dost symbolises that India is a friend of Turkey and the two must deepen their relations.
- ❖ Earlier, the NDRF was sent to two similar international operations – the 2011 Japan triple disaster (earthquake, tsunami and nuclear meltdown) and the 2015 Nepal earthquake.

### 3.8. URBAN20 (U20) SHERPAS MEETING IN AHMEDABAD.

- ❖ The inaugural meeting City Sherpa meeting of the **sixth Urban20 (U20) cycle** was organised in Ahmedabad on recently.
- ❖ **Priority areas for the Urban 20 event**
  - ✓ Encouraging environmentally responsible behaviours,
  - ✓ Ensuring water security,
  - ✓ Accelerating climate finance,
  - ✓ Championing 'local' identity,
  - ✓ Reinventing frameworks for urban governance and planning, and
  - ✓ Catalysing digital urban futures.

#### ABOUT U20

- ❖ U20 is a group of cities from the G20 countries and was first convened in Buenos Aires in 2018.
- ❖ The U20 brings together **mayors from G20 cities** under a common framework and coordinates a joint position to inform the discussions of national leaders.
- ❖ Contributions from the U20 are shared with the G20 Presidency and Heads of State, enhancing the role of cities as global economic and political leaders.

#### PARTICIPANTS

- ❖ The U20 brings together a group of Participating Cities.
- ❖ These cities are important economic or population hubs, made up of major **C40** and **UCLG member** cities from G20 countries



- ✓ **C40 Cities:** C40 connects 96 of the world's largest and most influential cities, representing **700+ million citizens** and **one-quarter of the global economy**.
- ✓ **United Cities and Local Governments (UCLG):** UCLG is the world organization of local and regional governments and their associations, representing and defending their interests on the world stage.
- ✓ UCLG's network represents 70% of the world's total population and is present in all world regions.

### 3.9. NORD STREAM.

- ❖ The recent claims made by investigative journalists regarding the bombing of the Nord Stream gas pipelines (September 2022) have ignited intense discussions and controversies.
  - ✓ There were a series of underwater explosions in the Baltic Sea that ruptured the Nord Stream 1 and 2 pipelines in September 2022.

#### ABOUT NORD STREAM PIPELINE:

- ❖ The Nord Stream pipeline is a natural gas pipeline that runs under the Baltic Sea, connecting Russia and Germany.
  - ✓ **Nord Stream 1** is a 1,224 km underwater gas pipeline running from Vyborg in northwest Russia to Lubmin in northeastern Germany via the Baltic Sea.
  - ✓ **Nord Stream 2** is 1200 km long and runs from Ust-Luga in Leningrad (Russia) to Greifswald in Germany, will have the capacity to handle 55 billion cubic metres of gas per year once it becomes fully operational.
- ❖ The pipeline was built with the aim of transporting natural gas from Russia to Europe, bypassing traditional transit countries such as Ukraine.
- ❖ The first line of the Nord Stream pipeline was completed in 2011 and the second in 2012, and it has since become a major source of natural gas for Europe.
- ❖ The Nord Stream pipeline has significant economic and political implications for both Europe and Russia.

### 3.10. INCLUSIVE FORUM ON CARBON MITIGATION APPROACHES (IFCMA).

- ❖ Inaugural meeting of IFCMA was held recently. India also participated.
- ❖ IFCMA is a new forum by Organisation for Economic Co-operation and Development (OECD).
- ❖ IFCMA aims to help improve global impact of emissions reduction efforts through better data and information sharing, evidence-based mutual learning etc.
- ❖ Objective of IFCMA is to take stock of mitigation policy instruments that countries use to reduce greenhouse gas emissions and estimate emissions that these instruments relate to.
- ❖ It will also develop a methodology to assess effects of mitigation policies on emission reductions at the country level.

### 3.11. WORLD'S FIRST GLOBAL SUMMIT ON RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE IN MILITARY (REAIM).

- ❖ It is held in Hague, Netherlands.
- ❖ It's the first global attempt to prevent proliferation of Lethal Autonomous Weapons (LAWS) and insert ethics, moral factor into rapidly developing weaponisation technology that has potential for cataclysmic damage.
- ❖ Purpose of REAIM 2023
  - ✓ Put the topic of responsible AI in military domain higher on political agenda.
  - ✓ Mobilise and activate wide group of stakeholders to contribute to concrete next steps.
  - ✓ Foster and increase knowledge by sharing experiences, best practices and solutions.
- ❖ **Role of AI in military domain**
  - ✓ Training and simulation to provide battlefield experience to soldiers.
  - ✓ Surveillance, specifically in difficult to reach border regions, to provide situational awareness.
  - ✓ Offensive capabilities, such as autonomous armed drones, which can execute targets.
  - ✓ Reconnaissance and tactical support in combat situations such as targeted strikes.
- ❖ **Issues with use of AI in military**
  - ✓ Principle of distinction between civil and military targets and population.
  - ✓ **Data biases:** AI is biased to certain kinds of data such as racial or gender bias. This impacts rational decision making.

### 3.12. WORLD GOVERNMENT SUMMIT.

- ❖ World Government Summit 2023 was held in Dubai, United Arab Emirates recently. It is a global forum held annually in Dubai.
- ❖ Its **theme** for 2023 is “Shaping Future Governments”.
- ❖ It brings together leaders in government, business, technology, and civil society to discuss pressing issues facing humanity and to shape future of governments worldwide.

### 3.13. TOTAL GRAINS FORECAST FALLS ON LOWER GLOBAL CORN PRODUCTION.

- ❖ Due to a downgraded corn production outlook in the United States and Argentina, the International Grains Council (IGC) has lowered its world total grains (wheat and coarse grains) production forecast to 2.248 billion tonnes, down by 8 million tonnes.

#### ABOUT INTERNATIONAL GRAINS COUNCIL (IGC)

- ❖ IGC is an intergovernmental organisation which came into existence in 1995 as a result of International Grains Agreement.
  - ✓ It is a successor of International Wheat Council (IWC), 1949.
- ❖ **Headquarters**- London, UK.
- ❖ **Objectives**: Promote expansion, openness and fairness in grains sector, contribute to grain market stability and enhance world food security.
- ❖ **Members**: Countries who are party to Grains Trade Convention (GTC), 1995 are members of IGC.
  - ✓ At present there are 30 members including India.
- ❖ GTC is the only international treaty covering trade in grains.

### 3.14. WORLD SECURITY CONGRESS BEGINS IN JAIPUR.

- ❖ The 18th UIC World Security Congress jointly organised by the International Union of Railways (UIC), Paris and the Railway Protection Force (RPF) began recently in Jaipur.
- ❖ Theme of this year’s Congress is “Railway Security Strategy: Responses and Vision for Future”.
- ❖ The World Security Congress is a globally recognized security platform that brings together representatives from member Railway Organizations, delegates of UIC, policy makers, senior law-enforcement officials from State Polices and Railway Protection Force to discuss the current security challenges and deliberate on innovative solutions in the Railway Sector.
  - ✓ The UIC (Union International Des Chemins) or International Union of Railways was established in 1922
  - ✓ It is headquartered in Paris.
  - ✓ It is the worldwide professional association representing the railway sector for research, development & promotion of rail transport.

### 3.15. INDIA, CHINA HOLD IN-PERSON BORDER TALKS AFTER 3 YEARS.

- ❖ For the first time since the India-China border stand-off began in 2020, India visited Beijing for the 26th meeting of the Working Mechanism for Consultation & Coordination on India-China Border Affairs (WMCC).
- ❖ Both sides discussed proposals for disengaging in remaining friction areas along Line of Actual Control (LAC) to create conditions to restore normalcy in relations.
- ❖ Border between India and China is not clearly demarcated throughout and there is no mutually agreed LAC.
  - ✓ LAC is divided into three sectors: Western, Middle and Eastern.
    - Boundary dispute in Western Sector (Ladakh) pertains to Johnson Line proposed British in 1860s.
    - In Middle Sector (Himachal Pradesh and Uttarakhand), dispute is a minor one. Both have exchanged maps on which they broadly agree.
    - Disputed boundary in Eastern Sector (Arunachal Pradesh and Sikkim) is over McMahon Line (in Arunachal Pradesh) decided in 1914.
- ❖ A series of agreements signed to address disputes arising over LAC:
  - ✓ 1993 Agreement on Maintenance of Peace and Tranquility along the LAC.
  - ✓ 1996 Agreement on Confidence-Building Measures in the Military Field Along the LAC.
  - ✓ 2005 Protocol on Modalities for Implementation of Confidence-Building Measures in Military Field Along LAC.

- ✓ 2012 Agreement on Establishment of a Working Mechanism for Consultation and Coordination on India-China Border Affairs.
- ✓ 2013 Border Defence Cooperation Agreement.

### 3.16. MUKAAB.

- ❖ Saudi Arabia unveiled its latest grand plan to transform its capital city Riyadh called the Mukaab – “cube” in Arabic.
- ❖ The Mukaab is among the ambitious architectural projects planned and undertaken by Saudi Arabia as a part of its Vision 2030, aimed at revolutionising the country’s economy and lifestyle.
- ❖ It will stand 400 metres high, wide and long, big enough to hold 20 Empire State Buildings.
- ❖ The cubic shape of the Mukaab will ensure the ultimate utilisation of space.
- ❖ The Mukaab will be built using the modern Najdi architectural style – a twist on the traditional Najdi architectural style from the Najd region in the centre of the Arabian peninsula.
- ❖ This architectural style was perfected over generations to be best suited for the region’s desert climate – its design focuses on naturally controlling the climate inside the structure.

### 3.17. SEATTLE BECOMES FIRST CITY IN US TO BAN CASTE DISCRIMINATION.

- ❖ The Seattle City Council passed an ordinance adding caste to the list of protected classes in the city’s municipal code, along with groups like race, religion, and gender identity.
- ❖ Seattle created history by becoming the first US city to pass an explicit ban on caste-based discrimination.

### 3.18. AJAY BANGA NOMINATED WB HEAD.

- ❖ Recently, Indian American business executive Ajay Singh Banga was nominated by US President to head the World Bank.
- ❖ If confirmed by the World Bank Board of directors, he will be the first Indian-American to head either of the two top international financial institutions: the International Monetary Fund (IMF) and the World Bank.

#### ABOUT WORLD BANK

- ❖ Created in 1944, as the International Bank for Reconstruction and Development (IBRD) along with the IMF. The IBRD later became the World Bank.
- ❖ The World Bank Group is a unique global partnership of **five institutions** working for sustainable solutions that reduce poverty and build shared prosperity in developing countries.
- ❖ The World Bank is one of the United Nations' specialized agencies.
- ❖ **Members:** 189 member countries including India
- ❖ Its Five Development Institutions:
  - ✓ International Bank for Reconstruction and Development (IBRD)
  - ✓ International Development Association (IDA)
  - ✓ International Finance Corporation (IFC).
  - ✓ Multilateral Guarantee Agency (MIGA)
  - ✓ International Centre for the Settlement of Investment Disputes (ICSID)
    - India is not a member of ICSID.
- ❖ The United States is the largest single shareholder, with 16.41% of the votes, followed by Japan (7.87%), Germany (4.49%), the United Kingdom (4.31%), and France (4.31%). The rest of the shares are divided among the other member countries.

### 3.19. FATF SUSPENDS RUSSIA’S MEMBERSHIP DUE TO UKRAINE WAR

- ❖ Global anti-money laundering watchdog the Financial Action Task Force has suspended Russia's membership over Moscow's invasion of Ukraine. Although suspended, Russia remains a FATF member.
- ❖ Also, FATF updated its list for Jurisdictions Under Increased Monitoring (i.e. Grey list) and High-Risk Jurisdictions (i.e. Black List).

#### ABOUT FATF

- ❖ FATF, established in 1989, is an inter-governmental body (India a member) that leads global action to tackle money laundering, terrorist and proliferation financing.
- ❖ **Headquarters-** Paris.
- ❖ FATF lists
  - ✓ **Grey list**
    - Countries that are actively working with FATF to address strategic deficiencies in their regimes to counter money laundering, terrorist financing, and proliferation financing.
    - Countries in grey list may face: Economic sanctions (from IMF, World Bank etc); Problem in getting loans from IMF, World Bank etc.; Reduction in international trade; International boycott etc.
    - UAE, Turkiye, Jordan, South Africa and 20 other nations are in Grey List.
  - ✓ **Black list**
    - Countries that FATF considers non-cooperative in global effort to combat money laundering terrorist financing, and financing of proliferation.
    - Myanmar along with Iran and North Korea continue to be in Black list.

### 3.20. UNITED NATIONS HUMAN RIGHTS COUNCIL (UNHRC).

The latest and longest-ever session of the UN's Human Rights Council (UNHRC) is being held presently.

#### ABOUT UNHRC

- ❖ The Human Rights Council is an inter-governmental body within the United Nations system responsible for strengthening the promotion and protection of human rights around the world.
- ❖ The Council was created by the United Nations General Assembly (UNGA) in 2006.
  - ✓ It replaced the former United Nations Commission on Human Rights.
- ❖ The Office of the High Commissioner for Human Rights (OHCHR) which is headquartered in Geneva, Switzerland serves as the Secretariat of the Human Rights Council.
- ❖ It is made up of 47 United Nations Member States which are elected by the UNGA.
- ❖ Members of the Council serve for a period of three years and are not eligible for immediate re-election after serving two consecutive terms.

### 3.21. FAB-4 OR CHIP-4.

- ❖ US led Fab-4 semiconductor alliance held its first meeting.
- ❖ It is an alliance of world's top producers of semiconductors: Taiwan, United States, Japan and South Korea.
- ❖ Chip 4 alliance was proposed by US in 2022 to enhance the "security" and "resilience" of Fab 4 or Chip 4 Alliance semiconductor supply chains, including by reducing the world's reliance on chips made in China.

### 3.22. INDIA'S G-20 SHERPA AMITABH KANT INAUGURATED INDIA'S FIRST MODEL G-20 SUMMIT.

- ❖ India's G-20 Sherpa Amitabh Kant inaugurated India's first Model G-20 Summit organized by Rambhau Mhalgi Prabodhini's Indian Institute of Democratic Leadership.
- ❖ The two-day Model G-20 Summit has been organized at the Rambhau Mhalgi Prabodhini's Uttan campus in Mumbai to celebrate India's presidency and take the idea of G-20 to the youth.
- ❖ Addressing the summit Mr. Kant informed that G-20 is an important forum because it accounts for 85 percent of the global GDP. G20 countries comprise developed and developing countries that have provided solutions to various global issues.
  - ✓ India has taken the G-20 presidency amidst global turmoil like Post COVID challenges, geopolitical crisis, debt crisis, climate crisis, and food and energy crisis.
- ❖ He added that India believes that every challenge brings an opportunity. Kant further reiterated India's G-20 presidency seeks to advocate the oneness of all.
- ❖ The students will get into the roles of G-20 member countries and discuss various political and social issues across the four committees or tracks, namely Leader track, Sherpa track, Civil-20, and Business-20.

## 4. STATE NEWS

### 4.1. ASSAM CRACKDOWN ON CHILD MARRIAGE: WHAT DOES THE LAW SAY?

- ❖ Over the last few days, the Assam government has arrested over 2,000 men in a campaign against child marriages that have taken place in the state.
- ❖ The police will retrospectively book people who participated in child marriage in the last seven years and the focus will especially be on “mullahs, kazis, and pujaris” conducting these marriages. The arrests come in the backdrop of growing debate on the minimum age of marriage of Muslim women.

#### LEGAL SCENARIO

- ❖ The men who married girls below 14 years of age would be booked under the Protection of Children From Sexual Offences (POCSO) Act and those marrying girls between the age of 14 and 18 years would be booked under the Prohibition of Child Marriage Act (PCMA), 2006.

#### POCSO ACT:

- ❖ The POCSO Act, of 2012 criminalises sex between a minor and an adult. The law does not recognize a minor’s consent as valid.
- ❖ Sexual assault under POCSO is a non-bailable, cognisable offence. This means that the police can make an arrest without warrant.
- ❖ So, a presumption of sexual assault is being made in cases of child marriage involving minor girls below the age of 14. Sexual assault, that is not penetrative, carries a minimum imprisonment of three years that may extend to five years with a fine.
- ❖ Under Section 19, the Act imposes a “mandatory reporting obligation” which requires every person who suspects or has knowledge of a sexual offence being committed against a child must report it to the police or the Special Juvenile Police Unit. Failure to do so will result in imprisonment, a fine, or both.

#### PROHIBITION OF CHILD MARRIAGE ACT (PCMA) 2006:

- ❖ It says that child marriages are illegal but not void. They are voidable at the minor's choice if he/she petitions the court to declare the marriage null and void.
- ❖ The Act stipulates 18 years as the minimum marriageable age for women, while for men it is 21 years.
- ❖ The Act punishes child marriage with rigorous imprisonment which may extend to two years or with a fine which may extend to one lakh rupees or both. The punishment also extends to anyone who performs, conducts, directs, or abets any child marriage.

#### CENTRAL GOVERNMENT’S STAND

- ❖ At the time of India’s independence, the minimum marriageable age stood at 15 years for females and 18 years for men.
- ❖ In 1978, the government increased it to 18 for girls and 21 for men.
- ❖ In 2020, the **Jaya Jaitly Committee** recommended the same age of 21 years in light of factors like reproductive health, education, etc.
- ❖ In 2021, the Central government sought to introduce the Prevention of Child Marriage (Amendment) Bill 2021, to raise the marriageable age for women across all religions, from 18 to 21 years.

### 4.2. THE PALAM PROJECT LAUNCHED IN TAMIL NADU.

- ❖ Tamil Nadu's first 'Palam' project launched in Karur aims to provide jobs for youth.
- ❖ The Palam Project or the City Livelihood Centre in Tamil Nadu’s Karur district is successfully placing educated unemployed youth in good jobs. And unlike most government employment exchanges, this one focuses mostly on private jobs.
- ❖ The aim of the Palam Project was to act as a bridge between job seekers and employers.

### 4.3. KERALA BECOMES FIRST STATE TO USE ROBOTIC SCAVENGERS TO CLEAN MANHOLES

- ❖ The Kerala government has launched robotic scavenger, “Bandicoot”, to clean sewages in the temple town of Guruvayur, becoming the first state in the country to use robotic technology to clean all its commissioned manholes.
- ❖ Genrobotics, a Technopark-based company, have developed “the world’s first robotic scavenger” Bandicoot in an effort to eliminate manual scavenging providing respite for workers engaged in manhole cleaning.
- ❖ The robotic Tron Unit, which is the major component of Bandicoot, enters the manhole and removes sewage using robotic hands, similar to a man’s limbs.
- ❖ The machine has waterproof, HD vision cameras and sensors that can detect harmful gases inside the manholes.



## 5. ECONOMY

### 5.1. ECONOMIC SURVEY 2022-23 RELEASED.

- ❖ Economic Survey provides a detailed report of national economy for the year along with forecasts. It is presented a day before the presentation of Union Budget.
- ❖ It was first presented for 1950-51 and was initially part of Budget documents. In 1964-65, it was separated from budget.
- ❖ It is prepared by Economic Division of Department of Economic Affairs, Ministry of Finance under guidance of Chief Economic Advisor.
- ❖ The comments or policy solutions contained in the Survey are not binding on the government.

#### IMPORTANT HIGHLIGHTS

1. GDP forecast -India's GDP forecast for FY24 is in a range of 6 - 6.8%, higher than most major economies.
2. Major global shocks – Covid19 pandemic and contraction in global output; Russia-Ukraine conflict; Sustained monetary tightening (increase in policy rates to curb inflation) by central bank.
3. Capital Expenditure (Capex) - Capex for FY23 was increased by 35.4% to 7.5 lacs crore.
4. FDI inflows - Declined by 14% in first half of FY23 due to global uncertainty (Russia-Ukraine conflict) but anticipated to increase in upcoming months.
5. Gross Non-performing Advances (GNPA) - GNPA of Scheduled Commercial Banks has fallen to a seven-year low of 5.0% in 2022 while Net NPA have dropped to a ten-year low of 1.3% of total assets.
6. Social sector spending –
  - a. Increases to Rs. 21.3 lakh crore in FY23 (budget estimate).
  - b. Out-of-pocket expenditure as a percentage of total health expenditure has declined.
7. Agriculture –
  - a. Private investment in agriculture increases to 9.3% in 2020-21.
  - b. Institutional Credit to Agricultural Sector continued to grow to 18.6 lakh crore in 2021-22.
8. Industry –
  - a. Overall GVA by Industrial Sector for first half of FY23 rose 3.7%, which is higher than average growth of 2.8% achieved in first half of last decade.
  - b. Electronics exports rose nearly threefold and India became the second largest mobile phone manufacturer globally.

### 5.2. ECONOMIC SURVEY 2022-23 STATES THAT START-UPS ARE EXPLORING "REVERSE-FLIPPING"

- ❖ Flipping is the process of transferring entire ownership of an Indian company to an overseas entity.
- ❖ It is generally accompanied by a transfer of all intellectual property and data owned by an Indian company.
- ❖ It effectively transforms an Indian company into a 100% subsidiary of a foreign entity.
- ❖ Reverse Flipping is the process of shifting the domicile of those companies back to India who flipped earlier.
- ❖ The Economic Survey 2023 stated that Indian startups are exploring 'reverse flipping', or shifting their domicile back to India, with easy access to capital from private equity and venture capital, changes in rules regarding round-tripping, and the growing maturity of India's capital market.

### 5.3. WHAT ARE LAB-GROWN DIAMONDS, MENTIONED BY FM NIRMALA SITHARAMAN?

- ❖ **Finance Minister** announced in the budget 2023-24, the government's proposal to focus on **lab-grown diamonds** by reducing the Customs duty on the seeds used in lab-grown diamond manufacturing.
  - ✓ FM also announced a **grant to IITs** to facilitate the growth of **Lab-Grown Diamonds in India**.
  - ✓ This will encourage the indigenous production of LGD seeds, machines and to reduce import dependency.

#### LAB-GROWN DIAMONDS

- ❖ **Lab-grown diamonds (LGD)** are diamonds that are produced in **laboratories**, using specific technology which **mimics the geological processes** that grow natural diamonds.
- ❖ **Production Process of LGDs:**
  - LGDs are mostly manufactured through two processes – **high pressure, high temperature (HPHT) method or Chemical Vapour Deposition (CVD) method**.

1. **High pressure, high temperature (HPHT) method:** HPHT method requires extremely heavy presses that can produce up to **730,000 psi of pressure under extremely high temperatures (at least 1500 celsius)**.
    - Usually **graphite is used as the “diamond seed”** and when subjected to these extreme conditions, the relatively inexpensive form of carbon turns into one of the most expensive carbon forms.
  2. **Chemical Vapor Deposition (CVD) method:** A thin slice of diamond seed is placed in a **sealed chamber** and **heated to around 800 degrees celsius**, and then the chamber is filled with other **carbon rich gases such as methane**.
    - The gases are ionised into plasma using microwaves, lasers, and other techniques. The ionisation breaks down the gases and **allows the carbon to merge with the diamond seed**, growing the diamond up layer by layer.
- ❖ Both HPHT and CVD methods of growing diamonds artificially begin with a seed — a slice of another diamond.

#### APPLICATIONS:

- ❖ LGDs have basic properties similar to natural diamonds, including their optical dispersion, which provide them the signature diamond sheen. However, since they are created in controlled environments, many of their properties can be enhanced for various purposes.
- ❖ LGDs are most often used for **industrial purposes**, in machines and tools. Their hardness and extra strength make them ideal for use as **cutters**.
- ❖ Pure synthetic diamonds have **high thermal conductivity, but negligible electrical conductivity**. This combination is **invaluable for electronics** where such diamonds can be used as a heat spreader for high-power laser diodes, laser arrays and high-power transistors

#### ADVANTAGES OF LGDS

- ❖ The **environmental footprint** of a diamond grown in a laboratory is **much lesser than that of a naturally-occurring diamond**. A report by Diamond Foundry states that it takes **ten times more energy to extract a natural diamond** from the earth than it takes in creating one above the ground
- ❖ Since LGD's are lab grown, they can be **customised to improve properties** that are specific to the application. Ex: hardness in industrial applications can be prioritised over optical or chemical properties.

#### INDIAN DIAMOND INDUSTRY

- ❖ Diamond occurs in **two types of deposits**, primarily in **igneous rocks of basic or ultrabasic composition** and in **alluvial deposits derived** from the primary sources.
- ❖ Diamond fields of India are grouped into four regions:
  - ✓ South Indian tract of Andhra Pradesh, comprising parts of Anantapur, Kadapa, Guntur, Krishna, Mahabubnagar and Kurnool districts;
  - ✓ Central Indian tract of Madhya Pradesh, comprising Panna belt;
  - ✓ Behradin-Kodawali area in Raipur district and Tokapal, Dugapal, etc. areas in Bastar district of Chhattisgarh; and
  - ✓ Eastern Indian tract mostly of Odisha, lying between Mahanadi and Godavari valleys.
- ❖ India is the world's largest cutting and polishing center for diamonds, accounting for over **90% of polished diamond manufacturing** globally. India exports more than **75% of the world's polished diamond**, gems and jewellery.
- ❖ India depends largely on imports of rough gem diamonds for its Cutting and Polishing Industry as there is no notable production except for one producer in Madhya Pradesh.
- ❖ Diamond cutting and polishing is one of the fastest-growing sectors, mostly export-oriented and being labour intensive employs **more than 5 million people**, contributing around **7% to the country's GDP and 15% to India's total merchandise export**.

#### 5.4. UNION BUDGET 2023-24: VISION FOR AMRIT KAAL PRESENTED IN PARLIAMENT.

- ❖ A budget is 'an estimation of revenue and expenses over a specified future period of time and is utilized by governments, businesses, and individuals at any income level:
- ❖ Under Article 112, the Union Budget is referred to as the 'Annual Financial Statement' - a statement of the estimated receipts and expenditure of the government for that particular year (April 1 to March 31).
- ❖ Union Budget is not a single document rather a list of 13 documents.
  - ✓ 3 documents i.e. Annual Financial Statement, Demands for Grants, and Finance Bill are mandated by Article 112, 113 and 110(a) of Constitution.
  - ✓ 2 documents presented as per Fiscal Responsibility and Budget Management Act, 2003:
    - Macro-economic framework statement;



- Medium term fiscal policy cum fiscal policy strategy statement.
- ✓ Other documents are in the nature of explanatory statements supporting the mandated documents.

#### **VISION FOR AMRIT KAAL - AN EMPOWERED AND INCLUSIVE ECONOMY**

- ❖ First budget of India's Amrit Kaal, the vision includes a technology-driven and knowledge-based economy with strong public finances, and a robust financial sector.
- ❖ Also, the Union Budget is guided by seven priorities that complement each other and act as the Saptarishi.

#### **5.5. MAHILA SAMMAN SAVINGS CERTIFICATE SCHEME ANNOUNCED.**

- ❖ Mahila Samman Savings Certificate is a new small savings scheme introduced by the Indian government in the budget 2023, aimed at empowering women and girls. The scheme offers a deposit security of up to INR 2 lakhs for a tenure of 2 years, with an interest rate of 7.5%. With its fixed returns, government backing, tax benefits, and partial withdrawal options, the Mahila Samman Savings Certificate scheme offers a secure and flexible investment option for women and girls.

#### **SALIENT FEATURES OF THE SCHEME**

- ❖ Commemorating Azadi Ka Amrit Mahotsav, the new savings scheme is available for a two-year period up to March 2025.
- ❖ The scheme is exclusively for women and girls and offers a deposit facility of up to INR 2 lakhs.
- ❖ The interest rate for the scheme is fixed at 7.5% for a tenure of 2 years.
- ❖ The certificate may be obtained from the post office or a bank.
- ❖ Benefits of Mahila Samman Savings Certificate
  - ✓ Fixed Returns: The interest rate is fixed at 7.5%
  - ✓ It is backed by the Indian government.
  - ✓ It offers tax-saving benefits under section 80C of the Income-tax Act, 1961.
  - ✓ Offers partial withdrawal options, making it a flexible investment option.
  - ✓ Tenure of 2 years, compared to 15 years for PPF and 5 years for the National Savings Certificate.

#### **5.6. BUDGET 2023 EARMARKS Rs 15,000 CRORE FOR UPLIFTMENT OF PARTICULARLY VULNERABLE TRIBAL GROUPS.**

- ❖ Recently, Pradhan Mantri PVTG (Particularly Vulnerable Tribal Groups) Development Mission with outlay of Rs 15000 crore was proposed in Budget 2023-24 to improve socio-economic conditions of the PVTGs.
  - This will saturate PVTGs families and habitations with basic facilities like safe housing, clean drinking water, improved access to education, health etc.

#### **ABOUT PVTGS**

- ❖ The Particularly Vulnerable Tribal Groups (PVTGs) are a group of tribal community people in need of greater support and development.
- ❖ Out of the 705 Scheduled Tribes in India, 75 have been identified as PVTGs and are spread across 17 states and one Union Territory.
- ❖ Odisha has the highest number of PVTGs in India.
- ❖ PVTG of Sahariyas has the highest population.

#### **BRIEF HISTORY**

- ❖ In India, tribal population makes up for 8.6% of the total population.
- ❖ In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, which are less developed among the tribal groups.
- ❖ In 2006, the Government renamed the PTGs as Particularly Vulnerable Tribal Groups (PVTGs).

#### **GOVERNMENT FOLLOWS THE FOLLOWING CRITERIA FOR IDENTIFICATION OF PVTGS -**

- ❖ Pre-agricultural level of technology
- ❖ Low level of literacy
- ❖ Economic backwardness
- ❖ A declining or stagnant population.

## 5.7. BUDGET 2023: GOVT IS PLANNING TO ELIMINATE SICKLE-CELL ANAEMIA BY 2047.

- ❖ The **Government of India**, through the **National Health Mission**, is supporting the states in their **efforts to prevent and manage sickle cell disease**.
- ❖ In **Union Budget 2023-24**, the government has **announced a mission to eliminate Sickle cell Anaemia by 2047**.
- ❖ The mission will entail awareness creation, universal screening of seven crore people in the 0-40 years age group in affected tribal areas and counselling through collaborative efforts of central ministries and state governments.
- ❖ There are approximately 200 districts in the country where the disease is prevalent, mostly in Maharashtra, Madhya Pradesh, Chattisgarh, Gujarat, Rajasthan, Jharkhand and Odisha.

### About:

- ❖ Sickle-cell anaemia is one of a **group of inherited disorders** known as sickle-cell disease. Due to this genetic anomaly, the red blood cells of the affected person become misshapen and break down. Due to the abnormal shape, the blood flow is affected.
- ❖ Usually, Red blood cells are usually round and flexible, so they move easily through blood vessels.
  - ✓ In sickle cell anaemia, some red blood cells are shaped like sickles or crescent moons. These sickle cells also become rigid and sticky.
- ❖ Symptoms of sickle cell disease can vary, but some common symptoms include:
  - ✓ **Chronic Anaemia:** leading to fatigue, weakness, and paleness.
  - ✓ **Painful episodes** (also known as sickle cell crisis): these can cause sudden and intense pain in the bones, chest, back, arms, and legs.
  - ✓ **Delayed growth and puberty**
- ❖ **Treatment:**
  - ✓ **Blood Transfusions:** These can help relieve anaemia and reduce the risk of pain crises.
  - ✓ **Hydroxyurea:** This is a medication that can help reduce the frequency of painful episodes and prevent some of the long-term complications of the disease.
  - ✓ It can also be treated by **bone marrow or stem cell transplantation**
- ❖ **Government Initiatives to Tackle SCD:**
  - ✓ Government has released **technical operational guidelines for prevention and control of hemoglobinopathies in 2016** including sickle cell anaemia.
  - ✓ Integrated centers have also been established in 22 tribal districts for treatment and diagnosis.
  - ✓ The State Haemoglobinopathy Mission has been established in Madhya Pradesh to address the challenges in screening and management of the disease

## 5.8. INDIA'S ECONOMY 10% MORE ENERGY EFFICIENT THAN G20 AVERAGE: IEA

- ❖ International Energy Agency (IEA) recently released the report titled "Life Lessons From India"
- ❖ Report examines how India has integrated several policies in its energy transition strategy that are aligned with LiFE initiative.
- ❖ Key highlights
  - ✓ Annual global CO2 emissions will fall by 2 billion tonnes in 2030 on adoption of LiFE (Lifestyle for Environment) measures.
  - ✓ LiFE measures can also help lower inequalities in energy consumption and emissions between countries. The reductions the measures could deliver in per capita carbon dioxide emissions in advanced economies by 2030 are three to four times greater than in emerging market and developing economies, it says.
  - ✓ LiFE measures would save consumers globally around \$440 billion in 2030.
  - ✓ India's economy is already 10 percent more energy efficient than both global and G20 average.
  - ✓ India took less time to go from half to full electricity access than other major economies.
  - ✓ Around 60% of emissions saving by LiFE measures could be directly influenced or mandated by governments.
  - ✓ India's example shows the importance of behavioural change and consumption choices in driving energy transitions.

### INDIA'S INITIATIVES

India has embarked on a dynamic new phase in its energy transformation, which spans three broad areas.

1. Firstly, it has launched important **initiatives to bring down the prices** and increase the supply of clean energy. These include a target of **non-fossil fuel sources contributing to 50 per cent** of India's power generation capacity by 2030; a

**National Green Hydrogen Mission** with the ambition of establishing annual renewable hydrogen production of 5 million tonnes (Mt) by 2030; and biofuel mandates that **target 30 per cent blending of ethanol in petrol by 2030**.

2. Secondly, India seeks to **domesticate parts of the global supply chains** that will be critical to its new energy economy. E.g **Production Linked Incentive (PLI) scheme**.
3. Thirdly, the government has focused on **demand-side measures**.

#### ABOUT LIFE MISSION

- LiFE mission was launched by Prime Minister of India at COP 26 in 2021 to bring individual behaviours at forefront of global climate action narrative.
- LiFE envisions replacing the prevalent 'use-and-dispose' economy with a circular economy.
- LiFE Mission is being piloted by NITI Aayog and implemented by Ministry of Environment, Forest and Climate Change.
- Tenure: 2022 to 2027.

### 5.9. SEBI NOTIFIES STRONGER FRAMEWORK FOR GREEN BONDS; INTRODUCES CONCEPT OF BLUE, YELLOW BONDS

- ❖ In exercise of powers conferred under SEBI Act, 1992, SEBI (Issue and Listing of Non- Convertible Securities) (Amendment) Regulations, 2023 amends 2021 regulations to expand the scope of the definition of Green Debt Securities (GDS).
- ❖ SEBI defines "Green debt security" as a debt security issued for raising funds sustainable energy, clean transportation, sustainable waste management etc.
- ❖ As per new framework, projects and assets categories under GDS has been expanded to incorporate
  1. **Blue bonds**: Comprises funds raised for sustainable water management including clean water and water recycling, and sustainable maritime sector including shipping, fishing, ocean energy and mapping etc.
  2. **Yellow bonds**: Comprises funds raised for solar energy generation and upstream industries and downstream industries associated with it.
  3. **Transition bonds**: Comprises funds raised for transitioning to a more sustainable form of operations, in line with India's Intended Nationally Determined Contributions.
- ❖ Aligns extant framework for GDS with updated Green Bond Principles (GBP) recognised by IOSCO.

#### INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS (IOSCO)

- ❖ It is the international body that brings together world's securities regulators and is recognized as global standard setter for securities sector.
- ❖ Secretariat- Madrid, Spain.
- ❖ SEBI is a member of IOSCO Board.

### 5.10. PM INAUGURATES TWO NEW VANDE BHARAT EXPRESS.

- ❖ Recently, PM flagged off two **Vande Bharat trains** set to ply between Mumbai and the pilgrim towns of Shirdi and Solapur. For the first time, two Vande Bharat trains were inaugurated at one go.
- ❖ The two trains are Mumbai-Solapur Vande Bharat Train and Mumbai-Sainagar Shirdi Vande Bharat Train.
  - ✓ **The Mumbai-Solapur Vande Bharat train is the 9th Vande Bharat train** in the country, facilitating travel to important pilgrimage centres such as Siddheshwar in Solapur, Akkalkot, Tuljapur, Pandharpur near Solapur and Alandi near Pune.
  - ✓ **Mumbai-Sainagar Shirdi Vande Bharat Train will be the 10th Vande Bharat train** in the country.

#### ABOUT VANDE BHARAT EXPRESS – INDIGENOUSLY BUILT SEMI-HIGH-SPEED TRAIN

- ❖ Vande Bharat is India's first indigenous Semi High-Speed Train.
- ❖ The first 'Vande Bharat Express' train was flagged off by Shri Narendra Modi on the New Delhi – Kanpur – Allahabad – Varanasi- route in February 2019.
- ❖ The Vande Bharat Express, earlier known as Train 18, is an electric multiple-unit train designed and manufactured by the government-owned Integral Coach Factory (ICF), Chennai.
- ❖ It can achieve high speeds due to faster acceleration and deceleration and also reduce journey time by 25% to 45%.

### 5.11. MIIRA: INDIA READIES PLAN TO POPULARISE MILLETS GLOBALLY.

- ❖ India plans to propose a global initiative called "MIIRA" or Millet International Initiative for Research and Awareness for global coordination of millet research programs.
- ❖ India's plan to launch MIIRA is in line with the United Nations declaring 2023 as the International Year of Millets.
- ❖ For MIIRA to take off, India will contribute the "seed money" while each G20 member will later have to contribute to its budget in the form of a membership fee.
- ❖ The **Indian Institute of Millet Research in Hyderabad** will be supported as the **Center of Excellence** for sharing best practices, research, and technologies at the international level.
- ❖ **MIIRA's secretariat will be in Delhi.**

#### ABOUT MILLETS

- ❖ These are small-grained cereals that require less water than rice and wheat and are mainly grown in rainfed areas.
- ❖ Major millet crops: sorghum (jowar), pearl millet (bajra), foxtail millet (kangni/Italian millet), and finger millet (ragi/mandua).
- ❖ According to the Ministry of Agriculture, bajra, jowar, and ragi accounts for nearly 7% of the gross cropped area in India.
- ❖ About 41% of global food production of millets takes place in India making India the largest producer of millet in the world.

### 5.12. MARKET ACCESS INITIATIVE

- ❖ Apparel Export Promotion Council (AEPC) inaugurated the first edition of Upnext India 2023 in presence of international buyers and exhibitors.

#### ABOUT

- ❖ This initiative is in the form of a series of Reverse Buyer Seller meet under the name of "UPNEXT INDIA".
  - ✓ **Reverse Buyer Seller Meet** is to provide an opportunity for prospective importers (Buyers) to interact with their Indian counterparts (sellers) about the requirements, instead of sellers going to buyers to sell their products.
- ❖ Upnext India is organized by AEPC and supported by the **Ministry of Commerce and Industry** under the Market Access Initiative (MAI) Scheme.

#### MARKET ACCESS INITIATIVE (MAI)

- ❖ It is an Export Promotion Scheme. The scheme aims to act as a catalyst to promote India's exports on a sustained basis.
- ❖ The scheme is formulated on the basis of the **product and country focus approach**. It will evolve specific markets and specific products through market studies/surveys.

#### APPAREL EXPORT PROMOTION COUNCIL (AEPC)

- ❖ Incorporated in 1978, AEPC is the official body of apparel exporters in India that provides invaluable assistance to Indian exporters as well as importers/international buyers who choose India as their preferred sourcing destination for garments.
- ❖ It is under the aegis of Ministry of Textiles.

### 5.13. PRIME MINISTER INAUGURATED FIRST PHASE OF DELHI-MUMBAI EXPRESSWAY (DME).

- ❖ First phase i.e., 246 km Delhi - Dausa - Lalsot section of DME reduces travel time from Delhi to Jaipur and provide boost to economic development of entire region.
- ❖ DME will be 8 lane India's longest greenfield expressway with length of 1,386 km.
- ❖ It'll reduce travel distance between Delhi and Mumbai by 12% and travel time by 50% i.e., 12 hrs.
- ❖ It'll pass through six states - Delhi, Haryana, Rajasthan, Madhya Pradesh, Gujarat and Maharashtra and connect major cities.
- ❖ The expressway is the first in Asia and only the second in the world to feature animal overpasses and underpasses to facilitate unrestricted movement of wildlife.
- ❖ It'll serve 93 PM Gati Shakti Economic Nodes, 13 Ports, 8 Major Airports and 8 multi-modal logistics parks (MMLPs) along greenfield airports like Jewar Airport etc.
- ❖ It is part of Centre's Bharatmala Pariyojana (launched by Ministry of Road Transport & Highways) and expected to be completed in 2024.

- ❖ DME project is powered by PM Gati Shakti Master Plan where arrangements have been made to lay optical fibre cables, electricity lines, gas pipelines etc.

#### 5.14. APEDA COMPLETES 37 YEARS OF OPERATIONS.

- ❖ The Agricultural and Processed Food Products Export Development Authority (APEDA), which was established in 1986 through an Act of Parliament, works under the **Ministry of Commerce and Industry**.
- ❖ It is mandated with export promotion of agricultural commodities.
  - ✓ Additionally, APEDA has been entrusted with the responsibility to monitor import of sugar.
- ❖ In line with ideas of 'vocal for local' and 'Atmanirbhar Bharat', APEDA has been focusing on promotion of exports of locally sourced GI (Geographical Indications) tagged as well as indigenous, ethnic agricultural products.
- ❖ As on date, there are **417 registered GI products** and of them around 150 GI tagged products are agricultural and food GI out of which **more than 100 registered GI products fall under the category of APEDA scheduled products** (Cereals, Fresh Fruits and vegetables, processed products, etc).
- ❖ As per WTO Data, India has become the world's eighth-largest exporter of agricultural products, with exports worth USD 24.77 billion in the 2021-22.

#### 5.15. RESERVE BANK OF INDIA ANNOUNCES 2ND GLOBAL HACKATHON "HARBINGER 2023"

- ❖ The Reserve Bank announced its second global hackathon – 'HARBINGER 2023 – Innovation for Transformation' with the **theme** 'Inclusive Digital Services'.
- ❖ It has received 363 proposals submitted by teams from within India and from 22 other countries including the US, UK, Sweden, Singapore, Philippines, and Israel.

##### THE RBI HAS INVITED INNOVATIVE IDEAS IN FOUR SEGMENTS:

- ❖ 'Innovative, easy-to-use, digital banking services for differently-abled (Divyaang);
- ❖ RegTech solutions to facilitate more efficient compliance by Regulated Entities (REs)';
- ❖ Exploring use cases/solutions for CBDC-Retail transactions, including transactions in offline mode';
- ❖ 'Increasing Transactions Per Second (TPS)/ throughput and scalability of blockchains'.

#### 5.16. CABINET NOD TO SHINKU LA TUNNEL

- ❖ The Union Cabinet gave its nod for the construction of the 4.1-km Shinku La tunnel on the Nimu-Padam-Darcha road link to provide all-weather connectivity to the border areas of Ladakh.
- ❖ The tunnel will be completed by December 2025 at a cost of ₹ 1,681 crore.
- ❖ The tunnel will help to boost the Zaskar valley economy. It will reduce the travel time between HP and Ladakh.

##### ABOUT SHINKU LA

- ❖ The Shinku La or Shingo La is a mountain pass located on the border between HP and Ladakh. It is at an altitude of 5,091 metres.
- ❖ Border Road Organization built a road to the pass in 2016 . However, the road couldn't be accessed during winter and large-wheeled vehicles couldn't pass through.
- ❖ With the Atal Tunnel and the completion of the Shinku La Tunnel in 2025, the Nimmu – Padum – Darcha road shall be accessed all through the year.

##### PROJECT YOJAK

- ❖ The Shinku La tunnel is a part of Project Yojak. This project is implemented by Border Roads Organisation (under Ministry of Defence).
- ❖ The main objective of the project is to make sure Manali – Leh route is accessible all through the year.

#### 5.17. INDIA'S FIRST MARINE SPATIAL PLANNING (MSP) FRAMEWORK LAUNCHED.

- ❖ **Puducherry** has launched the country's first Marine Spatial Planning (MSP) framework as part of a pact under the Indo-Norway Integrated Ocean Initiative, to balance growth alongside sustainable management of ocean resources and coastal environment preservation.
- ❖ It is a collaboration between Norwegian Environment Agency, Ministry of Earth Sciences, National Centre for Coastal Research and Puducherry administration.

### WHAT IS MARINE SPATIAL PLANNING?

- ❖ MSP is a process of analysing and allocating spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives.
- ❖ Intergovernmental Oceanographic Commission of UNESCO helps countries by providing a step-by-step guide for ecosystem-based MSP.
- ❖ **Advantages include-** Identification of biological and ecological important areas, transparency in permit and licensing procedures, Enhanced community participation etc

### 5.18. PAYTM PAYMENTS BANK BECOMES 1ST PAYMENTS BANK TO LAUNCH UPI LITE FEATURE

- ❖ Paytm Payments Banks Limited (PPBL) has launched Unified Payments Interface (UPI) LITE, enabled by National Payments Corporation of India (NPCI) for multiple small-value UPI transactions.
- ❖ This feature will help with faster real-time transactions with a single click through Paytm as the bank aims to drive the adoption of digital payments across the country.

### ABOUT UPI LITE

- ❖ UPI LITE is a payment solution that leverages the trusted NPCI Common Library (CL) application to process low value transactions that have been set at below ₹ 200.
- ❖ The solution runs off existing UPI ecosystem protocols for mobile phones to ensure commonality, compliance and system acceptance.
- ❖ Designed by the National Payments Corporation of India (NPCI), UPI LITE was launched by the Reserve Bank of India in September 2022.
  - ✓ Unified Payments Interface (UPI) is an instant real-time payment system developed by National Payments Corporation of India (NPCI).

### 5.19. RBI ISSUES DRAFT NORMS FOR LENDING AND BORROWINGS OF G-SECS.

- ❖ Recently, the Reserve Bank of India (RBI) proposed introduction of securities lending and borrowing in government securities (G-secs).
- ❖ Aim-to facilitate wider participation in the securities lending market.

### HIGHLIGHTS

- ❖ Government Securities Lending (GSL) transactions shall be undertaken for a **minimum period of one day and a maximum period of ninety days**.
- ❖ Government securities issued by the **central government excluding Treasury Bills** would be eligible for **lending/borrowing under a GSL transaction**.
- ❖ Government securities issued by the **central government (including Treasury Bills) and the state governments** would be eligible for **placing as collateral** under a GSL transaction.
- ❖ An entity eligible to undertake repo transactions in government securities, and any other entity approved by the Reserve Bank of India would be eligible to participate in GSL transactions as lender of securities.

### ABOUT GOVERNMENT SECURITIES (G-SECS)

- ❖ G-Sec is a tradeable instrument issued by Central or state Governments. It acknowledges government's debt obligation.
- ❖ Securities can be either
  - ✓ short term -usually called **T-Bills**, with **maturities of less than one year** or
  - ✓ long term usually called **Government bonds or dated securities** with maturity of **one year or more**.
- Central Government issues both, T-bills and bonds or dated securities while State Governments issue only bonds or dated securities, called State Development Loans (SDL).
- **G-Secs** carry practically no risk of default and, hence, are called **risk-free gilt-edged instruments**.

### 5.20. NUCLEAR POWER PLANT IN GORAKHPUR.

- ❖ Haryana's first nuclear power plant is poised to come up in Gorakhpur village (District Fatehabad).
- ❖ The upcoming Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) will have two units of 700 MWe capacity each of Pressurised Heavy Water Reactor (PHWR).

## INDIA'S NUCLEAR PROGRAMME

- ❖ India's 3-stage nuclear energy program, envisioned by Homi Bhabha, is based on a closed nuclear fuel cycle.
  1. **Stage-I:** PHWRs fuelled by Natural uranium would produce plutonium-239. Heavy water (D<sub>2</sub>O) is used as moderator and coolant in PHWR.
  2. **Stage-II:** Fast Breeder Reactors utilising plutonium-239 fuel from first stage and formed uranium-238.
  3. **Stage-III:** Advanced nuclear power systems for utilisation of thorium.
- ❖ India successfully reached the first stage in 2013 with over 22 nuclear reactors (18 PHWRs, and 4 Light Water Reactors) in 7 nuclear power plants.
- ❖ India is currently on second stage of program.
- ❖ India's current nuclear power capacity of 6,780 MW is expected to increase to 22,480 MW by 2031.
- ❖ Nuclear energy is fifth-largest source of electricity for India.

## 5.21. TEJA CHILLI

- The growing demand for the popular Teja variety of red chilli, famous for its culinary, medicinal and other wide-ranging uses, in the export market is proving to be a boon for the Khammam Agriculture Market, Telangana.
  - ✓ Khammam district, the largest producer of the Teja variety of red chilli, is the leading exporter of pungent fruit.
- The huge demand for Oleoresin, a natural chilli extract, is mainly driving the export of Teja variety of red chilli from Khammam district to various spice processing industries in several Asian countries.
- Exported to China, Bangladesh and a few other south Asian countries.

## 5.22. NOD TO COMMERCIAL RELEASE OF NANO-DAP.

- ❖ The agriculture ministry has approved commercial release of nano-diammonium phosphate (nano-DAP).
- ❖ It is expected to reduce subsidy and the import dependence on the fertiliser variety.
- ❖ Nano-DAP will be manufactured by India Farmers Fertiliser Cooperative (IFFCO) and Coromandel International.
  - ✓ Currently more than half of India's DAP requirements are imported, mainly from West Asia and Jordan.
- ❖ Nano-DAP is a next-generation fertilizer produced with nanoparticles of Nitrogen and Phosphorus, the primary macronutrients for plants.
- ❖ In 2021, IFFCO launched Nano-Urea.
- ❖ It is also planning to launch nano-potash, nano-zinc and nano-copper fertilizers.

## ADVANTAGES OF USING NANO-DAP

- ❖ Higher Use-Efficiency as a 500-ml bottle of nano-DAP will have the same effectiveness as a bag of conventional soil nutrient.
- ❖ Reduced input cost to agriculture, improved agriculture sustainability etc.

## 5.23. VOSTRO ACCOUNTS

- ❖ 20 Russian banks have opened Special Rupee Vostro Accounts (SRVA) with partner banks in India.
- ❖ A Vostro account is an account that domestic banks hold for foreign banks in the former's domestic currency, in this case, the rupee.
  - ✓ Domestic banks use it to provide international banking services to their clients who have global banking needs.
- ❖ The SRVA is an additional arrangement to the existing system that uses freely convertible currencies and works as a complimentary system.
- ❖ Banking services such as wire transfers, conducting business transactions, accepting deposits and gathering documents on behalf of the other bank.
- ❖ Domestic banks gain wider access to foreign financial markets and serve international clients without having to be physically present abroad.
- ❖ Three important components of SRVA are:
  1. **Invoicing:** All exports and imports must be denominated and invoiced in INR.
  2. **Exchange Rate:** The exchange rate between the currencies of the trading partner countries would be market-determined.
  3. **Settlement:** The final settlement also takes place in Indian National Rupee (INR).

## Eligibility Criteria of Banks

- ❖ Banks from partner countries would approach an authorised domestic dealer bank that would then seek approval from the apex banking regulator for opening an SRVA.
- ❖ The domestic banks would be responsible to ensure that the correspondent bank is not from a country mentioned in the updated Financial Action Task Force (FATF) Public Statement on High Risk & Non-Co-operative jurisdictions.
- ❖ Authorised banks can open multiple SRV accounts for different banks from the same country.

#### **BENEFITS**

- ❖ The Economic Survey (2022-23) pointed out that SRVA would reduce the net demand for foreign exchange, for the settlement of current account-related trade flows.
- ❖ Reduce the need for holding foreign exchange reserves and dependence on foreign currencies
- ❖ Indian exporters could get advance payments in INR from overseas clients

#### **VOSTRO VS NOSTRO ACCOUNT**

- ❖ Nostro and Vostro are Latin words that translate to 'ours' and 'yours' respectively.
- ❖ While a Nostro Account is said to be a record of deposits held by a bank with a foreign bank in the currency of the country holding the funds, a Vostro Account is one that is again managed by a correspondent bank on another bank's behalf.
- ❖ The difference between the two is that it is described from the point of view of the two different banks i.e., depositor and holder.

### **5.24. INDIA SINGAPORE LAUNCH UPI- PAYNOW LINK.**

- ❖ UPI-PayNow integration will enable people in both countries to send money real-time via QR-code based or simply by entering mobile numbers linked to bank account.
- ❖ With this, Singapore became the first country to allow cross-border Person to Person (P2P) payment facility.
- ❖ Earlier, at selected merchant outlets in Singapore, UPI payments through QR codes were made available.
- ❖ Significance of UPI-PayNow linkage
  - ✓ Benefit Indian diaspora, especially migrant workers, and students by allowing faster and cost-efficient funds transfer.
  - ✓ Enable users to transfer funds instantly without the need to get on board the other payment system.

#### **OTHER DETAILS**

- ❖ **PayNow** is a fast payment system in Singapore. It enables peer-to-peer funds transfer service, available to retail customers through participating banks and Non-Bank Financial Institutions (NFI) in Singapore
- ❖ **UPI**: It is a system that powers multiple bank accounts into a single mobile application merging several banking features, seamless fund routing & merchant payments into one hood.
  - ✓ It was developed by NPCI in 2016. UPI supports both P2P and Person-to-Merchant (P2M) payments.
- ❖ **NPCI**: It is an umbrella organisation for operating retail payments and settlement systems in India, established by the Reserve Bank of India (RBI) and the Indian Banks' Association (IBA) in 2008 under the provisions of the Payment and Settlement Systems Act, 2007.
  - ✓ It has been incorporated as a "Not for Profit" Company under the provisions of Section 25 of the Companies Act 1956 (now Section 8 of the Companies Act 2013), with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.

### **5.25. TRADITIONAL KNOWLEDGE DIGITAL LIBRARY (TKDL).**

- ❖ Eurasian Patent Organization (EAPO) and Council of Scientific and Industrial Research (CSIR) signed TKDL Access Agreement.
  - ✓ Through Agreement, EAPO shall gain access to TKDL database for purposes of Intellectual Property Rights (IPR) grant.
- ❖ TKDL, first of its kind globally, is a database of Indian traditional knowledge established in 2001, by CSIR and Ministry of AYUSH.
- ❖ It contains information related to Ayurveda, Unani, Siddha, Sowa Rigpa, and Yoga in five international languages (English, German, French, Japanese and Spanish).
- ❖ It prevents misappropriation of country's traditional medicinal knowledge through patenting.
- ❖ It is an effective deterrent against bio-piracy.



## 5.26. 101 MORE APMC MANDIS TO BE CONNECTED WITH E-NAM BY MARCH-END.

- ❖ This will bring total number of APMC mandis to 1,361 by March end and boost turnover of electronic National Agriculture Market (e-NAM) platform.
  - ✓ In the current fiscal, 260 mandis have joined the electronic platform, taking the total to 1,260

### About e-NAM

- ❖ e-NAM is a pan-India electronic trading portal which networks existing APMC mandis to create a unified national market for agricultural commodities.
- ❖ Small Farmers Agribusiness Consortium (SFAC) under Ministry of Agriculture and Farmers' Welfare (MoA&FW) is implementing agency for e-NAM.
- ❖ Conditions for joining e-Nam requires three amendments in APMC acts of states-
  1. Single trading license (Unified) to be valid across state.
  2. Single point levy of market fees across state.
  3. Provision for e-auction/ e-trading as a mode of price discovery.
- ❖ **APMC** is a statutory market committee constituted by State Government in respect of trade in certain notified agricultural or horticultural or livestock products, under APMC Act 2003 issued by that state government.

## 5.27. FSSAI SPECIFIES COMPREHENSIVE GROUP STANDARD FOR MILLETS.

- ❖ The Food Safety and Standards Authority of India (FSSAI) has specified a comprehensive group standard for millets with effect from 1st September 2023.
- ❖ Currently, individual standards for only a few millets like Sorghum (Jowar), whole and decorticated Pearl Millet grain (Bajra), Finger Millet (Ragi) and Amaranth are prescribed by FSSAI in 2011.
- ❖ FSSAI has now framed a comprehensive group standard for 15 types of millets specifying 8 quality parameters to ensure availability of good quality (standardized) millets in domestic and global markets.
  - These are—
    - ✓ maximum limits for moisture content,
    - ✓ uric acid content,
    - ✓ extraneous matter,
    - ✓ other edible grains,
    - ✓ defects,
    - ✓ weevilled grains, and
    - ✓ immature and shrivelled grains.
- ❖ Those brought under the quality cover are Amaranthus (Chaulai or Rajgira), Barnyard Millet (Samakechawal or Sanwa or Jhangora), Brown top (Korale), Buckwheat (Kuttu), Crab finger (Sikiya), Finger Millet (Ragi or Mandua), Fonio (Acha), Foxtail Millet (Kangni or Kakun), Job's tears (Adlay), Kodo Millet (Kodo), Little Millet (Kutki), Pearl Millet (Bajra), Proso Millet (Cheena), Sorghum (Jowar) and Teff (Lovegrass).

### ABOUT FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA (FSSAI)

- ❖ FSSAI has been established under Food Safety and Standards , 2006.
- ❖ It has been created for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.
- ❖ The Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for FSSAI.

## 5.28. PHOSPHOR-GYPSUM IN NATIONAL HIGHWAY CONSTRUCTION.

- ❖ National Highways Authority of India (NHAI) along with the Department of Fertilizers, Ministry of Chemicals & Fertilizers will take up field trials on NHAI projects for the use of Phosphor-Gypsum in National Highway construction to achieve a circular economy in the use of Gypsum.
- ❖ Phosphor-Gypsum, a waste product from manufacturing fertilizer, emits **radon**, a radioactive gas.
  - ✓ It also contains the radioactive elements uranium, thorium and radium.
- ❖ NHAI is also encouraging the use of waste plastic in road construction, which has been tested very successfully.
  - ✓ Studies have established that roads built using plastic waste are durable, sustainable and increase the life of bitumen (a substance produced through the distillation of crude oil).
- ❖ Similarly, NHAI has used Fly Ash for the construction of Highways and flyover embankments.
  - ✓ Fly ash is an **unwanted unburnt residue of coal combustion** in a coal thermal power plant.

- ✓ It is emitted along with flue gases (a waste gas from a combustion process) during the burning of coal in a furnace and collected using electrostatic precipitators.

### 5.29. 5<sup>TH</sup> ANNUAL PERIODIC LABOUR FORCE SURVEY (PLFS) REPORT RELEASED BY THE NATIONAL STATISTICAL OFFICE (NSO)

- ❖ It covers July 2021 to June 2022 period.
- ❖ All India Labour Force Participation Rate (LFPR) increased to 55.2% (Rural-57.5%, Urban-49.7%; Male-77.2%, Female-32.8%) from 54.9% in 2020-21.
- ❖ Worker Population Ratio (WPR) increased to 52.9% (Rural-55.6%, Urban-46.6%; Male-73.8%, Female-31.7%) from 52.6% in 2020-21.
- ❖ Unemployment Rate (UR) decreased to 4.1% (Rural-3.2%, Urban-6.3%; Male-4.4%, Female-3.3%) from 4.2% in 2020-21.
- ❖ PLFS categorises workforce into self-employed (which includes own account workers, employers and unpaid helpers in family enterprises); regular wage/salaried workers and casual labourers.
  - ✓ Own account workers run small enterprises without hiring any labour but may take help from family members, while employers hire workers.
- ❖ PLFS was launched in 2017.

#### OBJECTIVE OF PLFS IS TO ESTIMATE

- ❖ Key employment and unemployment indicators (viz. WPR, LFPR, UR) in short time interval of three months for urban areas only in "Current Weekly Status"(CWS).
- ❖ Estimate employment and unemployment indicators in both 'Usual Status' (principal activity status + subsidiary economic activity status) and CWS in both rural and urban areas annually.

#### TERMINOLOGIES

- ❖ **Labour Force Participation Rate (LFPR)** - Percentage of persons in labour force (i.e. working or seeking or available for work) in the population.
- ❖ **Worker Population Ratio (WPR)** - Percentage of employed persons in the population.
- ❖ **Unemployment Rate (UR)** - Percentage of persons unemployed among the persons in labour force.
- ❖ **Activity status**- Determined on the basis of activities pursued by person during the specified reference period.
  - ✓ **Usual Status** - activity status is determined on the basis of the reference period of last 365 days preceding the date of survey.
  - ✓ **Current Weekly Status**- activity status determined on the basis of a reference period of last 7 days preceding the date of survey.

### 5.30. INDIA MUNICIPAL BOND INDEX (IBMX)

- ❖ National Stock Exchange (NSE) launched India's first municipal bond index- IBMX- to track performance of bonds issued by municipal corporations.
- ❖ Municipal bond market has seen a three-fold rise in fund raising since 2017 (from ₹2,342 crore in 2017 to ₹6,252 crore in 2022.)
- ❖ Index will have 28 municipal bonds, which were issued by 10 issuers.
- ❖ Bonds in the index have a credit rating of A category.

### 5.31. KARNATAKA PLANS COUNTRY'S FIRST MARINA AT BYNDOOR

- ❖ The Karnataka Government will build the country's first Marina or a boat basin offering dockage, at Byndoor in Udupi district to promote coastal tourism in Karnataka.
- ❖ The government will also seek permission from the Centre for the relaxation of coastal regulation zone (CRZ) to take up beach tourism in coastal areas and pilgrim tourism.

## 6. ART AND CULTURE

### 6.1. REPUBLIC DAY: UTTARAKHAND TABLEAU WINS FIRST PRIZE; PUNJAB REGIMENT NAMED BEST MARCHING CONTINGENT.

- ❖ The wildlife and religious theme tableau of Uttarakhand has been awarded the top prize at this year's Republic Day parade on Kartavya Path.
- ❖ The Uttarakhand tableau showcased the state's wildlife and religious sites during the ceremonial parade on January 26.
  - ✓ In the foreground of the tableau, reindeer, deer and various birds were shown roaming in the world-famous Corbett National Park. The central part of the tableau depicted the state animal of Uttarakhand, musk deer, national bird peacock and ghoral.
  - ✓ Jageshwar Dham, a group of ancient 125 small and big temples in Manaskhand's Almora district, and popular deodar trees were shown in rear part of the tableau.
- ❖ Meanwhile, the Indian Army's Punjab Regiment has been adjudged the best marching contingent among the three services.
  - ✓ A total of six contingents of the Army including the Mechanized Infantry Regiment, Punjab Regiment, Maratha Light Infantry Regiment, Dogra Regiment, Bihar Regiment and Gurkha Brigade marched during the parade.
- ❖ Gujarat's tableau emerged as the numero uno in the popular choice segment.

### 6.2. KHADI FASHION SHOW FASCINATES THE AUDIENCE ON RANN OF KUTCH.

- ❖ The Khadi Fashion Show was organised to establish new dimensions of Khadi, to further promote the excellent design of Khadi garments-apparels, and accessories for Khadi fashion promotion, and to promote Khadi as a brand all over the world.
- ❖ Mega Khadi fashion show, first ever on Rann of Kutch, was organized by Khadi and Village Industries Commission (KVIC).
- ❖ Rann of Kutch is a salt marshy land in Thar Desert in Kachchh district of western Gujarat.
- ❖ It is one of the largest salt deserts in world.
- ❖ It includes Great Rann of Kachchh, Little Rann of Kachchh and Banni grassland.
- ❖ It is part of Indian wild ass sanctuary, and Kachchh desert wildlife sanctuary.
- ❖ It is home to the only remaining population of chestnut-coloured Indian wild ass (khur), as well as blue-bulls, blackbuck and chinkara.

### 6.3. 36TH SURAJKUND INTERNATIONAL CRAFTS MELA 2023 INAUGURATED AT FARIDABAD.

- ❖ The Surajkund Mela is an annual international event that aims to promote locally produced handicraft items in India and International Platform.
- ❖ The Surajkund Mela is unique event that showcases the richness and diversity of the handicrafts, handlooms and cultural fabric of India. Surajkund International Crafts Mela 2023 is the largest crafts fair in the world.

#### BACKGROUND

- ❖ In 2013, the fair was upgraded to an international level and in 2015, a record number of 20 countries participated in the Mela. Lebanon was the Partner Nation and Chhattisgarh, the Theme State.
- ❖ In 2014, over 15 countries from European & African continents participated in the Mela including SAARC nations.
- ❖ The Surajkund International Crafts Mela 2023 is organized by the Surajkund Mela Authority & Haryana Tourism in collaboration with Union Ministries of Tourism, Textiles, Culture and External Affairs.
- ❖ At least 20 countries & all the states of India will be participating in the Surajkund International Mela.
- ❖ Partner Nation: Shanghai Cooperation Organization (SCO) is the partner nation in 36th Surajkund International Crafts Mela 2023.
- ❖ North Eastern Region is the theme state in the 36th Surajkund International Crafts Mela.

#### OBJECTIVES

- ❖ To promote handicrafts, handlooms with the aid of craftsmen invited from all over the country.
- ❖ To identify languishing and lesser known crafts and to introduce them to patrons.
- ❖ To undertake the promotion of export of handlooms and handicrafts.

#### 6.4. UNESCO TO SOON DECLARE VISVA-BHARATI WORLD'S FIRST LIVING HERITAGE UNIVERSITY.

- ❖ Founded by Rabindranath Tagore in 1921, Visva-Bharati University will soon get 'heritage' tag from UNESCO to take distinction of world's first living heritage university.
  - ✓ World Heritage Sites are cultural and/or natural sites of 'Outstanding Universal Value; which are important across countries and generations.
- ❖ When founded in 1921 on 1,130 acres of land, it was named after Nobel Laureate Rabindranath Tagore until Visva-Bharati Society was registered as an organisation in May 1922. Rabindranath Tagore donated some of his property, including land and a bungalow, to the society.
- ❖ University was inaugurated as a Centre for Culture with exploration into arts, language, humanities, music and these are reflected in diverse institutes.
- ❖ Structures in these institutes constitute a myriad of architectural expressions which are as diverse as the Kalo Bari (a mud structure with coal tar finish and sculpture panels), Mastermoshai studio (a single storied structure built for the first principal of Kala Bhavan, Nandalal Bose), etc.
- ❖ University has an open-air education system.
- ❖ Until Independence, it was a college and the institution was given the status of Central University in 1951 through a central Act.
- ❖ Its first vice-chancellor was Rathindranath Tagore, the son of Rabindranath Tagore, and the second vice-chancellor was grandfather of another Nobel Laureate economist Amartya Sen.

#### 6.5. STONE AGE CARVINGS FOUND IN ARAVALLIS.

- ❖ Latest discovery of stone carvings dating back to Paleolithic period in Gurgaon has added to Aravalis' trove of history.
- ❖ The petroglyphs discovered in Badshapur Tethar village of Sohna include graffiti, and hand and footprints of humans and animals engraved on quartzite rocks. The site is atop a hillock and just 6km from Mangar, where cave paintings believed to be from the same period were discovered in 2021.
- ❖ Several tools and equipment used to make them were found at the site as well.
- ❖ These petroglyphs are highly significant, considering their antiquity can go to prehistory. These can be territorial, or used for ancient games or record-keeping.

##### ABOUT PALEOLITHIC AGE

- ❖ Palaeolithic ('Old Stone Age') makes up the earliest chunk of Stone Age - the large swathe of time during which hominins used stone to make tools.
- ❖ During Lower Paleolithic (about 2.6 million to 1 million years ago), simple pebble tools and crude stone choppers were made by earliest humans.
- ❖ Middle Paleolithic (250,000 to 30,000 years ago) was characterized by flake tools and widespread use of fire.
- ❖ Upper Paleolithic (50,000-40,000 years ago until about 10,000 years ago) saw emergence of more sophisticated tools.

#### 6.6. NEW HAJ POLICY: FORMS FOR FREE, PACKAGE COST CUT BY 50K.

- ❖ The Ministry of Minority Affairs has announced a new Haj policy under which the application forms have been made available for free and the package cost per pilgrim has been reduced by Rs 50,000.
  - ✓ The reduction of Rs 50,000 comes primarily in the form of relaxation of norms for foreign currency – earlier a Haj pilgrim had to submit the equivalent of 2,100 Saudi Riyal, amounting to approximately Rs 44,000, that was submitted to the Haj Committee for foreign exchange.

##### ABOUT HAJJ PILGRIMAGE

- ❖ The Hajj is a religious pilgrimage to the holy city of Mecca in Saudi Arabia that is mandatory for all able-bodied Muslims who can afford it. It is one of the Five Pillars of Islam and is considered a central part of Muslim religious life.
  - ✓ Five Pillars:
    - Shahada (Faith): The declaration of faith in the oneness of God and the acceptance of Muhammad as God's prophet.
    - Salah (Prayer): Performing the five daily prayers facing the Kaaba in Mecca.
    - Zakat (Charity): Giving a portion of one's wealth to those in need.
    - Sawm (Fasting): Fasting during the month of Ramadan.

- Hajj (Pilgrimage): Making a pilgrimage to the holy city of Mecca at least once in a lifetime if one is physically and financially able.
- ❖ The Hajj takes place during the Islamic month of Dhu al-Hijjah and involves several rituals.
  - ✓ Dhu al-Hijjah is the twelfth and final month of the Islamic calendar.
- ❖ Participating in the Hajj is seen as a way to demonstrate one's devotion to God and to earn spiritual merit, and it is a source of great pride and inspiration for many Muslims.

#### HAJJ PILGRIMAGE PROMOTION IN INDIA

- ❖ Nodal Ministry-Ministry of Minority Affairs.
- ❖ Haj pilgrimage for the Indian Pilgrims is conducted either through **Haj Committee of India (HCoI)**, which is a **statutory organization under the administrative control of Ministry of Minority Affairs** or through the Haj Group Organisers (HGOs) duly approved by Ministry.
- ❖ India signed the Haj 2023 bilateral agreement with Saudi Arabia. According to the agreement, a total of 1,75,025 Indian Haj pilgrims will be able to perform Haj, reportedly the highest in history.

### 6.7. 'VICTORY CITY': A BRIEF HISTORY OF THE KINGDOM OF VIJAYANAGARA, ON WHICH SALMAN RUSHDIE'S LATEST NOVEL IS BASED.

- ❖ Salman Rushdie is back with his latest novel, Victory City.
- ❖ The book is a fictionalised telling of the story of the Vijayanagara Kingdom, narrated by a sorceress and poet named Pampa Kampana, who, over more than two centuries, witnessed Vijayanagara's many victories and defeats.

#### About Vijaynagara Kingdom

- ❖ From their capital, now known as Hampi, on the banks of the Tungabhadra river, the kings of Vijayanagara at the peak of their power ruled over a territory of more than 360,000 sq. km.
- ❖ Founded in 1336, the kingdom of Vijayanagara lasted for more than three centuries, a period in which it withstood multiple political stresses, and saw significant advances in art and economy.
- ❖ It was one of the most powerful kingdoms in the sub-continent.
- ❖ Over the course of its existence from 1336 to 1646, the kingdom saw various ups and downs. Founded by Harihara I of the Sangama dynasty, Vijayanagara expanded from a strategic position on the banks of the Tungabhadra river. By the 15th century, it had become a force to reckon with.
- ❖ The kingdom reached its peak under **Krishna Deva Raya** (reign 1509-1529), a period in which it enjoyed military superiority to its rival kingdoms such as the Bahmani Sultanate, the Golconda Sultanate and the Gajapatis of Odisha.
- ❖ At its peak, the kingdom stretched from Goa in the Konkan coast to parts of southern Odisha in the east and all the way to the very tip of the subcontinent in the south.
- ❖ It was the last bastion of Hindu rule in the South.
- ❖ A lasting theme in Vijayanagara's historiography has been its characterisation as "a Hindu bulwark against Muhammadan conquests", writes historian Phillip B. Wagoner.
- ❖ Vijayanagara has been remembered as an era of "cultural conservatism", when classical forms of Hinduism were preserved amidst growing Islamization of the rest of the subcontinent, especially the North.

#### Economy of Vijaynagan empire

- ❖ The foundations of the kingdom rested on its thriving trade and a monetised economy.
- ❖ While the economy of the kingdom was largely dependent on agriculture, trade thrived in its many ports on either coast.
  - ✓ **Traveller Abd al-Razzaq Samarqandi** chronicled how "the ports of Mangalore, Honavar, Bhatkal, Barkur, Cochin, Cannanore, Machilipatnam, and Dharmadam saw traders from Africa, Arabia, Aden, the Red sea, China and Bengal and also served as ship building centres".
- ❖ The empire's principal exports were pepper, ginger, cinnamon, cardamom, myrobalan, tamarind timber, anafistula, precious and semi-precious stones, pearls, musk, ambergris, rhubarb, aloe, cotton cloth and porcelain.
- ❖ Razzaq also chronicled the **high degree of monetisation** in the Vijayanagara kingdom. In his classic History of South India, K A Nilakanta Sastri wrote that coins were minted by the state as well as by merchant guilds using gold, silver, copper and brass, and their value depended on material weight.

#### VIJAYANAGAR'S CONTRIBUTIONS TO CULTURE AND ARCHITECTURE

- ❖ In this period when poetry and scholarship flourished, both in sacral and secular contexts. Literature in Tamil, Telugu, Kannada as well as Sanskrit was produced in the kingdom, with new writing styles and methods emerging.

- ❖ In architecture, Vijayanagara saw various enduring constructions.
- ❖ The Prasanna **Virupaksha temple of Bukka I** and the **Hazara Rama temple of Krishna Deva Raya** are striking examples of Vijayanagara's characteristic style and intricate artistry.
- ❖ Vijayanagara's capital **Hampi is a UNESCO World Heritage Site** today, known for its sophisticated fortifications as well as innumerable temples and other architectural marvels.

## 6.8. HILLARY CLINTON VISITS GRISHNESHWAR TEMPLE IN AURANGABAD.

- ❖ Recently, Former U.S. Secretary of State Hillary Clinton visited the historic Grishneshwar temple, which is the 12th Jyotirlinga in the country.

### Grishneshwar Jyotirlinga Temple

- ❖ Grishneshwar Jyotirlinga Temple also known as Ghushmeshwar Temple, is one of the shrines dedicated to Lord Shiva that is referenced in the Shiva Purana. The word Ghrneshwara means "lord of compassion".
- ❖ It is an important pilgrimage site in the Shaiva tradition of Hinduism, which considers it as the twelfth Jyotirlinga (linga of light).
- ❖ It is situated in the state of Maharashtra. This pilgrimage site is located in Ellora (also called Verul), less than a kilometer from Ellora Caves – a UNESCO World Heritage Site.
- ❖ **Historical background:**
  - ✓ The temple structure was destroyed by the Delhi Sultanate in the 13th and 14th-century.
  - ✓ It went through several rounds of rebuilding followed by re-destruction during the Mughal-Maratha conflict.
  - ✓ It was rebuilt in the current form in the 18th century by Ahilyabai Holkar of Indore, after the fall of the Mughal Empire.
- ❖ **Architectural Design:**
  - ✓ The Grishneshwar temple is an illustration of maratha temple architectural style and structure.
  - ✓ It is built of red rocks and is composed of a five-tier shikara.
  - ✓ This 240 ft x 185 ft temple is the smallest Jyotirlinga temple in India.
  - ✓ A court hall is built on 24 pillars. There is a Nandi bull in the court hall.

## 6.9. PM INAUGURATES ALJAMEA-TUS-SAIFIYAH ACADEMY IN MUMBAI.

- ❖ Prime Minister Narendra Modi inaugurated Dawoodi Bohra community's Arabic Academy at Aljamea-tus-Saifiyah (The Saifee Academy) in Mumbai.

### ABOUT ALJAMEA-TUS-SAIFIYAH

- ❖ It is a world-class Arabic academy dedicated to producing graduates of the highest calibre.
- ❖ This will be the **fourth campus of Aljamea-tus-Saifiyah Arabic Academy** (also known as Jamea). It is the premier educational institute of the Dawoodi Bohra community.
  - ✓ **First established** over two centuries ago in **Surat, Gujarat, in 1810**
  - ✓ In 1983, the Karachi campus was inaugurated by Pakistani president Muhammad Zia-ul-Haq. Jamea's third campus was inaugurated in Nairobi in 2017 by Kenyan President Uhuru Kenyatta.
- ❖ The four state-of-the-art campuses across the world are under the guidance and leadership of the 53rd al-Dai al-Mutlaq Dr. Syedna Mufaddal Saifuddin, who is the sole benefactor of the institute.
- ❖ **Objective-** Jamea seeks to prepare young Dawoodi Bohra men and women for leadership positions within society, global citizens dedicated to serving others and committed to acting in accordance with the values, principles, and ideals imparted to them over the course of their education.

### ABOUT DAWOODI BOHRAS

- ❖ They are Shia Muslims and they trace their heritage to the Fatimi Imams, direct descendants of the Prophet Mohammed, in Egypt.
- ❖ The Dawoodi Bohras throughout the world are guided by their leader known as the Al-Dai-Al-Mutlaq (unrestricted missionary), who first operated from Yemen and then, for the last 450 years, from India.
- ❖ The present leader is the 53rd al-Dai al-Mutlaq, His Holiness Dr Syedna Mufaddal Saifuddin. They today are generally highly educated, thriving business people and qualified professionals in numerous fields.
- ❖ Aggregating to around 1 million members, the Dawoodi Bohras have settled in over 40 countries across the globe to practice their faith and lead meaningful and prosperous lives

### RELATED INFORMATION

- ❖ Female genital mutilation or Khatna is a practice that involves altering or injuring the female genitalia for non-medical reasons. In India, it is **practised predominantly within the Bohra Muslim community**.
- ❖ It has been recognised by the United Nations as a **human rights violation** that can harm the health and integrity of women.
- ❖ UNICEF and the United Nations Population Fund (UNFPA) jointly lead the world's largest programme to end FGM.
- ❖ UN General Assembly designated **February 6th** as the International Day of Zero Tolerance for Female Genital Mutilation

### 6.10. AMRITPEX 2023

- ❖ Recently, the Minister for Communications, Electronics & Information Technology inaugurated AMRITPEX 2023 - National Philatelic Exhibition.
  - ✓ Philately is the study of postage stamps and postal history.
- ❖ This five-day Mahakumbh of Stamps (11th to 15th February 2023) in Pragati Maidan, New Delhi, is being organized as a part of Azadi Ka Amrit Mahotsav Celebrations.
- ❖ The exhibition will feature stamps and photographic collections on the country's history and culture. It is based on five themes –
  - ✓ Azadi Ka Amrit Mahotsav and New India,
  - ✓ Yuva Shakti,
  - ✓ Nari Shakti,
  - ✓ Nature and Wildlife, and
  - ✓ India's Culture and History.
- ❖ For the first time in India, new Technology like Virtual Reality, Augmented Reality has been used to showcase the cultural heritage, history, nature and wildlife by narrating the stories of stamps.

### 6.11. AGASTHIYAR OBSERVATORY

- ❖ Research sheds light on Agasthiyar Observatory which was one of the few magnetic observatories in world during 19th century.
  - ✓ It was situated in Agasthyarkoodam.
- ❖ Agasthyarkoodam, second highest peak in Kerala and is part of Agasthyamala Biosphere Reserve which lies conjointly in states of Kerala and Tamil Nadu.
  - ✓ It is part of UNESCO's World Network of Biosphere Reserves since 2001.
- ❖ Agasthyarkoodam got its name from sage Agasthya. He was a pioneer of Tamil Siddha Ayurveda.

### 6.12. LAVANI DANCE.

- ❖ Recently, the State of Maharashtra witnessed a controversy surrounding Lavani dance, where the younger generation of women dancers was accused of vulgarising the traditional folk art form.

#### ABOUT THE DANCE

- ❖ Derived from 'lavanya' or beauty, Lavani is a traditional folk art form in which women dancers wearing nine-yard-long sarees in bright colours, make-up, and ghunghroos(ankle bells) perform on dholak beats on a stage before a live audience.
- ❖ Several sub-genres of Lavani exist, of which the most popular is the **Shringarik** (erotic) kind. With passage of time the art became sanitised with later performers choosing indirect references to erotic meanings over direct gestures and overt lyrics.
- ❖ Lavani dance **was generally performed by Dhangars or Shepherds living in the Solapur**, inspired by nature, the dance form contains **tales of the birth of Biruba, their deity**. Live performances continue to get huge responses from the public in rural Maharashtra.
- ❖ A Lavani performance can be broadly categorized into two parts. The Nirguni Lavani, which deals with philosophy and Shringari Lavani which deals with sensuality.
  - ✓ Shrinagri Lavani is more popular than Nirguni Lavani and is performed in theatres as well as in Bollywood movies.
  - ✓ Shringari Lavani deals with a multitude of genres, with the love between a man and a woman being the most prominent.

### 6.13. NATIONAL TRIBAL FESTIVAL – AADI MAHOTSAV.

- ❖ The Aadi Mahotsav is a tribal festival which is organized by the Tribal Cooperative Marketing Development Federation (TRIFED) in New Delhi, to honor the spirit of tribal traditional art, culture, crafts, gastronomy, and trade.
- ❖ The main objective of conducting Aadi Mahotsav is to prevent the middlemen from exploiting the tribals and to provide them direct access to markets.
- ❖ The festival hosts nearly 200 stalls which will present the rich and varied legacy of the tribes from all around India. Almost 1000 tribal artisans are expected to take part.
- ❖ Along with the customary attractions like handicrafts, handloom, ceramics, jewellery, etc., the Mahotsav will place a special emphasis on exhibiting millets under the name 'Sri Anna' because 2023 is being observed as the International Year of Millets.

### 6.14. 10-DAY TAJ MAHOTSAV STARTS IN AGRA

- ❖ The Taj Mahotsav was officially launched on February 20 (Monday) in Agra.
- ❖ The event's theme this year is "Vishwa Bandhutva,"
- ❖ About 300 artisans from various states and UTs, including Jammu and Kashmir, West Bengal, Bihar, and Himachal Pradesh, are taking part in the event.
- ❖ This Mahotsav, which combines art, culture, and cuisines, draws locals as well as international tourists.

### 6.15. KEELADI FINDINGS.

- ❖ Recently, the Archaeological Survey of India (ASI) has presented a report on the findings at the Sangam-era site of Keeladi and their significance.
- ❖ Keeladi is a village in south Tamil Nadu along the Vaigai river near the temple city of Madurai.

#### FINDINGS:

- ❖ In the eight rounds of excavations, over 18,000 artifacts have been unearthed from the site.
- ❖ Over 120 potsherds containing Tamil Brahmi inscriptions have been found.
- ❖ Spindle whorls, copper needles, terracotta seal, hanging stones of the yarn, terracotta spheres and earthen vessels to hold liquid suggest various stages of a weaving industry
- ❖ Gold ornaments, copper articles, semi-precious stones, shell bangles, ivory bangles and ivory combs reflect the artistic, culturally rich and prosperous lifestyle of the Keeladi people

#### SIGNIFICANCE

##### 1. Keeladi and Sangam age:

- a. Keeladi's excavations from 2015 prove that an urban civilisation existed in Tamil Nadu in the Sangam age on the banks of the Vaigai river.
- b. The unearthed artifacts from Keeladi belong to a period between sixth century BCE and first century BCE. These findings pushed the Sangam age to 800 BCE .
- c. Keeladi adds to the credibility of Sangam Literature.

##### 2. Keeladi and IVC:

- a. The unearthed Keeladi artifacts have led to conclusion that the site is a part of the Vaigai Valley Civilisation
- b. some of the symbols found in pot sherds of Keeladi bear a close resemblance to signs of Indus Valley

#### RELATED INFORMATION

##### ASI-Archaeological Survey of India:

- ❖ The ASI is the premier organization for the archaeological research and protection of the cultural heritage of the country. It functions under the Ministry of Culture.
- ❖ The prime objection of ASI is to maintain the archaeological sites, ancient monuments, and remains of national importance.
- ❖ It regulates all archaeological activities as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958. It also regulates the Antiquities and Art Treasure Act, 1972.

#### SANGAM AGE



- ❖ The area lying to the south of river Krishna and Tungabhadra experienced a period between the 3rd century B.C. and 3rd century A.D. known as the Sangam Period.
- ❖ It has been named after the gathering of poets (Sangam) held during that period under the royal patronage of the Pandya kings of Madurai.
- ❖ The sources for this age are largely literary, though archaeological evidence has started to come up.
- ❖ Kharavela's Hatigumpha inscription (155 BCE) provides the earliest epigraphic evidence referring to a confederacy of Tamil states.

#### VAIGAI RIVER

- ❖ It originates in the Western Ghats (Varushanad Hills).
- ❖ It travels through the Pandya Nadu region of Tamil Nadu.
- ❖ Its main tributaries are Suruliyaru, Mullaiyaru, Varaganadhi, Manjalaru, Kottagudi, Kridhumaal and Upparu.
- ❖ The Vaigai finally drains into the Palk Strait near the Pamban Bridge in Ramanathapuram district.

### 6.16. KANAK RELE, RENOWNED MOHINIYATTAM EXPONENT PASSES AWAY.

- ❖ Known as one of India's most inventive classical dancers and pioneering dance educationists, Mohiniyattam exponent **Kanak Rele**, who played a significant role in bringing a systematic structure, academic veracity and much currency to Mohiniyattam, besides propagating female roles in Kathakali, died recently.
- ❖ She was conferred with the Padma Bhushan in 2013.

#### About Mohiniyattam

- ❖ Mohiniyattam is from Kerala and one of the eight classical dances of India.
  - ✓ 8 Classical dances are Bharatnatyam, Kathak, Kathakali, Kuchipudi, Odissi, Sattriya, Mohiniyattam and Manipuri.
- ❖ It is **performed by women** in honour of god Vishnu in his incarnation as enchantress Mohini.
- ❖ Conventionally a solo dance performed by female artists, it emotes a play through dancing and singing. Instruments used: Maddalam, Mridangam, Veena, Kuzhitalam or Cymbals, Edakka etc.
- ❖ It has its roots in sage Bharata Muni's text called 'Natya Shastra'.
- ❖ Mohiniyattam lays emphasis on acting. The dancer identifies herself with the character and sentiments existing in the compositions like the Padams and Pada Varnams which give ample opportunity for **facial expressions**.
- ❖ The **hand gestures, 24 in number, are mainly adopted from Hastalakshana Deepika**, a text followed by Kathakali. Few are also borrowed from Natya Shastra, Abhinaya Darpana and Balarambharatam.
- ❖ The gestures and facial expressions are closer to the natural(gramya) and the realistic (lokadharmi) than to the dramatic or rigidly conventional (natyadharmi).

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## 7. DAYS TO REMEMBER

### 7.1. WORLD WETLANDS DAY OBSERVED ON 2ND FEB.

- ❖ To create awareness about the importance of wetlands and protect them from degrading, the UN and other international organizations celebrate World Wetlands Day.
- ❖ Wetlands support a wide range of biodiversity and help to maintain natural cycles. They replenish water resources and protect coastlines.
- ❖ They account for 4.7% of the Indian Geographical area. Today 30% of the Indian wetlands have been lost. And 35% of wetlands have been lost at the world level.
- ❖ **The theme of 2023 World Wetlands Day-** It is Time for Wetlands Restoration
- ❖ World wetlands day marks the date of the adoption of the convention on wetlands on February 2, 1971, in Ramsar, a city in Iran.

### 7.2. PRESIDENT DROUPADI MURMU PAYS TRIBUTE TO DR ZAKIR HUSSAIN ON HIS BIRTH ANNIVERSARY.

- ❖ President paid tributes to Dr Zakir Hussain on his 126th birth anniversary.
- ❖ He served as third President of India from 13 May 1967 until his death on 3 May 1969
- ❖ He was first Muslim to hold the position.
- ❖ He helped found the Muslim National University in Aligarh (later moved to New Delhi and today known as Jamia Millia Islamia) and served as its vice-chancellor from 1926 to 1948.
- ❖ He was closely associated with Mahatma Gandhi and was chairman of the Basic National Education Committee established in 1937 which framed a new educational policy known as Nai Talim with its emphasis on free and compulsory education in the first language.
- ❖ He was also the first incumbent to die in office in 1969 and had the shortest tenure of any President.
- ❖ From 1956-58 he served on the executive board of UNESCO.
- ❖ Husain also served as Governor of Bihar from 1957 to 1962 and was elected as the Vice President of India in 1962.
- ❖ He was awarded the Bharat Ratna in 1963.

### 7.3. WORLD PULSES DAY CELEBRATED ON FEBRUARY 10<sup>TH</sup>

- ❖ The United Nations and several other international organizations and countries celebrate World Pulses Day on February 10.
- ❖ Objective- to increase awareness of the nutritional benefits and environmental benefits of pulses.
- ❖ The theme of World Pulses Day 2023- Pulses for a Sustainable future
- ❖ The UN passed the resolution of celebrating World Pulses Day in 2013. It is led by the Food and Agriculture Organization.

#### PULSES IN INDIA

- ❖ The Food Security Mission aims to increase the production of three crops in the country. They are rice, wheat, and pulses.
- ❖ India gives importance to pulses as they increase the nitrogen content in the soil. Pulses fix more than 20-40 kg of nitrogen in the soil.

### 7.4. WORLD RADIO DAY.

- ❖ It is celebrated on 13th February, every year.
- ❖ The day is observed every year to raise awareness among the public and the media about the importance of radio and to encourage access to information through radio.
- ❖ The **theme** for this year is “**Radio and Peace**”.
- ❖ On 3rd November, 2011, the 36th session of UNESCO declared World Radio Day to be celebrated on 13th February, as UN Radio was established by the United Nations on 13th February, 1946.
  - ✓ The day was later adopted by the UN General Assembly in 2012 as an International Day.

- ❖ India has around 479 radio stations making All India Radio one of the biggest broadcasters in the world. It covers around 99.19% of the Indian population.

### 7.5. INTERNATIONAL CHILDHOOD CANCER DAY 2023 OBSERVED ON 15TH FEBRUARY.

- ❖ International Childhood Cancer Day (ICCD) is observed on February 15 every year. The day was observed by the Childhood Cancer International, an umbrella organisation of various child cancer support groups created by parents.
- ❖ The day is dedicated to raising awareness and showing support for children and adolescents suffering from cancer.
  - ✓ An estimated 400 000 children and adolescents develop cancer each year.
- ❖ The three-year campaign for International Childhood Cancer Day began in 2021 and will conclude in 2023. The theme for the three-year campaign is '**Better Survival**'.

### 7.6. WORLD PANGOLIN DAY 2023 OBSERVED ON FEBRUARY 18<sup>TH</sup>.

- ❖ World Pangolin Day is observed annually on the **third Saturday in February**, and this year it falls on February 18.
- ❖ An estimated one million of these magnificent creatures have been and continue to be harvested from the wild in African and Asian nations to meet the enormous demand for their scale, skin, blood, and even foetuses, which are believed to have multiple purposes in fashion, traditional medicine, and cookery.
- ❖ A pangolin is a mammal of the order Pholidota, the only member of the family Manidae.
  - ✓ Pangolins are the only mammal to be covered in scales made of keratin, which protect them from predators.
- ❖ They are found in tropical regions of Africa and Asia.
- ❖ Pangolins are nocturnal animals that spend most of their time in trees, eating ants and termites.
- ❖ They have long tongues that they use to lick up their prey. They are also proficient swimmers.

### 7.7. WORLD SOCIAL JUSTICE DAY OBSERVED ON FEBRUARY 20<sup>TH</sup>

- ❖ The World Day of Social Justice is celebrated by the United Nations and several other international organizations on February 20.
- ❖ The main objective of observing world social justice day is to spread awareness of the relationship between poverty eradication and social justice.
- ❖ The **theme** of World Day of Social Justice 2023- '**Overcoming Barriers and Unleashing Opportunities for Social Justice**'.

### 7.8. UN COMMISSION FOR SOCIAL DEVELOPMENT.

- ❖ India has been elected as the Chair of 62nd Session of UN CSocD.
- ❖ For the 62nd session, the **priority theme** of the session is decided as "Fostering Social Development and Social Justice through Social Policies to accelerate Progress on the Implementation of the 2030 Agenda for Sustainable Development and to achieve the overarching goal of poverty eradication."
- ❖ CSocD is one of the 9 functional commissions of the Economic and Social Council (ECOSOC), established in 1946.
- ❖ It advises ECOSOC on social policies of a general character and, in particular, on all matters in social field not covered by specialised inter-governmental agencies.
- ❖ It consists of 46 members. They are elected by ECOSOC based on equitable geographical distribution for four-year terms.
- ❖ ECOSOC is one of the 6 principal organs of the United Nations, established in 1945.

### 7.9. INDIA CELEBRATES 8TH SOIL HEALTH CARD DAY ON FEBRUARY 19<sup>TH</sup> .

- ❖ Soil Health Card Day is celebrated on February 19 every year to celebrate launching of the Soil Health Card (SHC) Scheme in 2015.
  - ✓ 2015 was also marked as the International Year of Soils.

#### OBJECTIVES OF SOIL HEALTH CARD SCHEME

- ❖ To issue soil health cards **every two years** to all farmers, so as to provide a basis to address nutrient deficiencies in fertilization practices.

- ✓ Soil Health Card is a printed report that a farmer is given for each of his holdings. It contains the status of his soil with respect to **12 parameters**, namely
  - N (Nitrogen), P (Phosphorus), K (Potassium) [Macro-nutrients];
  - S (Sulphur) [Secondary- nutrient];
  - Zn (Zinc), Fe (Iron), Cu (Copper), Mn (Manganese), Bo (Boron) [Micro – nutrients]; and
  - pH levels , Electric Conductivity, Organic Carbon (Physical parameters).
- ✓ Based on these, the SHC will also indicate fertilizer recommendations and soil amendment required for the farm.
- ❖ To strengthen functioning of Soil Testing Laboratories (STLs) through capacity building, involvement of agriculture students and effective linkage with Indian Council of Agricultural Research (ICAR) / State Agricultural Universities (SAUs).
- ❖ To provide financial assistance to farmers to apply corrective measures for deficiencies and popularizing balance and integrated nutrient management practices for their cropping systems.
- ❖ To build capacities of district and state level staff and of progressive farmers for promotion of nutrient management practices.

### 7.10. INTERNATIONAL MOTHER LANGUAGE DAY OBSERVED ON 21ST FEBRUARY.

- ❖ International Mother Language Day is celebrated every year on February 21 to encourage linguistic, cultural, and multilingualism variety.
- ❖ In India, we also refer to it as the Matribhasha Diwas.
- ❖ The **theme** of the 2023 International Mother Language Day is “Multilingual education – a necessity to transform education”.

### 7.11. WORLD SCOUT DAY 2023 AND WORLD THINKING DAY CELEBRATED ON 22ND FEBRUARY.

- ❖ World Scout Day is observed annually on February 22 by millions of Boy Scouts worldwide.
- ❖ It honours Lord Robert Baden-Powell, who founded the Boy Scout Movement, on the day of his birthday.
- ❖ The day is observed by National Scout Organizations all over the world through events including fundraising campaigns, food drives, and other types of volunteer work.

#### WORLD THINKING DAY OBSERVED ON 22ND FEBRUARY

- ❖ Every year on February 22, the World Organization of Girl Guides and Girl Scouts (WAGGGS) observes World Thinking Day.
- ❖ The goal of the day is to collect money for the 10 million girl scouts and guides who are active in more than 150 countries while also celebrating sisterhood, solidarity, and women’s empowerment.
- ❖ ‘Our World, Our Peaceful Future’ is the theme for World Thinking Day 2023.

### 7.12. YAMUNOTRI DHAM.

- ❖ The Uttarakhand government has signed a memorandum of understanding (MoU) worth Rs. 167 crore for a ropeway to Yamunotri temple from Kharsali.
- ❖ It will reduce the travel time of the temple to 15 minutes from four hours that pilgrims trek to the holy shrine.

#### ABOUT YAMUNOTRI TEMPLE

- ❖ It is lodged in a narrow gorge close to the source of River Yamuna (the second-most sacred Indian river after River Ganga) in Uttarkashi district and is dedicated to Goddess Yamuna.

#### PROJECT FEATURES

- ❖ Length of Ropeway: 3.38-km-long
- ❖ Mono cable detachable type.
- ❖ Capacity -500 passengers in an hour.
- ❖ Based on public private partnership (PPE) model.

#### CHARDHAM YATRA

- ❖ The Char Dham is a set of four pilgrimage sites in India as defined by Adi Shankaracharya.
- ❖ The four Dhams are Badrinath, Dwarka, Puri and Rameswaram.

### CHOTA CHAR DHAM(UTTARAKHAND)

- ❖ A smaller circuit in Uttarakhand of four pilgrimage sites-Yamunotri, Gangotri, Kedarnath, and Badrinath is referred to as Chota Char Dham which is locally popular in North India.
- ❖ The high-altitude shrines remain shut for around six months every year, opening in summers (April or May) and closing with the onset of winter (October or November).

### ABOUT CHARDHAM PROJECT:

- ❖ The project involves developing and widening nearly 900-km of national highways connecting the holy Hindu pilgrimage sites of; Badrinath, Kedarnath, Gangotri, and Yamunotri.

## 7.13. FIRST MEETING OF THE CULTURE WORKING GROUP.

- ❖ Under the presidency of India in G20, the first meeting of the Culture Working Group has begun at Khajuraho in Madhya Pradesh recently.
  - ✓ The meeting was chaired by the Union Minister for Culture and Tourism.

### KHAJURAHO TEMPLES

- ❖ The temples at Khajuraho were built during the Chandella dynasty between 900 and 1050 AD.
- ❖ Only about 20 temples remain; they fall into **three distinct groups** and belong to **two different religions** – Hinduism and Jainism.
- ❖ The Kandariya Mahadev temple is famous for its artistic excellence. The architecture of the Chandellas is considered as one of the supreme achievements of Indian architecture.
- ❖ The UNESCO site of 'Khajuraho Group of Monuments' is famous for its Nagara-Style architecture and graceful sculptures of nayikas (Hindu Mythological female protagonists) and deities.

## 7.14. WORLD NGO DAY 2023 OBSERVED ON 27TH FEBRUARY

- ❖ The World NGO Day is an annually observed on February 27 to recognize the contributions of non-governmental organizations (NGOs).
- ❖ The day was first celebrated in 2010 The Baltic Sea NGO Forum of the Council of the Baltic Sea State officially recognised this day on April 27, 2010 and has since become an annual event that highlights the work of NGOs around the world.

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## 8. PERSON IN NEWS

### 8.1. LEGENDARY AMERICAN POP MUSICIAN BURT BACHARACH PASSES AWAY.

- ❖ Legendary American pop songwriter Burt Bacharach, whose prodigious work created a chart-topping soundtrack for the 1960s and 1970s, passed away at the age of 94.
- ❖ In 1957, he met songwriter Hal David, with whom they formed one of the most successful duos in music history.
- ❖ His compositions included rock classics such as 'Do You Know the Way to San Jose' and 'Raindrops Keep Fallin' on My Head'. He worked with many stars during his long career, from Dionne Warwick and Aretha Franklin to Dusty Springfield and Tom Jones.
- ❖ He has won three Oscars (including "Butch Cassidy and the Sundance Kid"), an Emmy, eight Grammy Awards and two Golden Globes.

### 8.2. EMINENT INDIAN PAINTER LALITHA LAJMI PASSES AWAY.

- ❖ Eminent Indian painter and late filmmaker Guru Dutt's sister Lalitha Lajmi passed away at the age of 90.
- ❖ She was a self-taught artist with a keen interest in classical dance.
- ❖ Over the decades, Lajmi has held several exhibitions at international art galleries in Paris, London and Holland. She also featured in Aamir Khan's film Taare Zameen Par, which was released in 2007.

### 8.3. INDIAN FOOTBALL LEGEND TULSIDAS BALARAM PASSES AWAY AT 86.

- ❖ Tulsidas Balaram, one of the country's finest footballers and a member of the golden era of Indian football (1951-1962), passed away. He was 86.
- ❖ He played in two Olympics in 1956 and 1960 and reached the pinnacle of Asian football when India, under the guidance of legendary coach Syed Abdul Rahim, won the Asian Games gold in Jakarta, beating South Korea 2-1 in 1962.
- Balaram scored 131 goals, including 14 for India, across seven seasons.

### 8.4. YAKSHAGANA BHAGAVAT BALIPA NARAYANA BHAGAVATHA PASSES AWAY AT 85

- ❖ Famous Yakshagana singer and screenwriter Balipa Narayan Bhagwat passed away at the age of 85.
- ❖ He had mastered a unique style of singing, due to which fans have given it the name of 'Balipa Style'.
- ❖ Rich in voice, Bhagwat has written more than 30 Yakshagana 'Prasanga' (scripts).
- ❖ He was well versed in over 100 Yakshagana episodes, which he composed by heart. He had served in the field of Yakshagana for about 60 years.

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## 9. AWARDS AND HONOURS

### 9.1. GRAMMYS 2023: RICKY KEJ, BENGALURU-BASED COMPOSER, WINS THIRD GRAMMY.

- ❖ Bengaluru-based composer Ricky Kej won a Grammy for Best Immersive Audio Album for his most recent album **Divine Tides** with rock-legend Stewart Copeland (The Police), making him the only Indian to win three Grammy awards.
- ❖ He won his **first Grammy in 2015** in the Best New Age Album category for '**Winds of Samsara**'. The project had debuted at No. 1 on the US Billboard New Age Albums Chart - **a first for any person of Indian origin**.
- ❖ **In 2022**, Kej won a **second Grammy** under the same category for his collaborative work with Copeland.

#### GRAMMY AWARDS

- ❖ Popularly known as Grammy Award, it is originally named **Gramophone Award**, presented annually in the United States by the **National Academy of Recording Arts & Sciences (NARAS)**; commonly called the Recording Academy) to honour artistes in the music industry for their exceptional work in a year.
- ❖ It was started in **1959** to respect the performers for the year 1958. Once it was made, the committee decided to call it Grammy as a tribute to **Emile Berliner's gramophone**.

#### CATEGORIES

- ❖ The "**General Field**" are four awards that are not restricted by genre:
  - ✓ Album of the Year
  - ✓ Record of the Year
  - ✓ Song of the Year
  - ✓ Best New Artist
- ❖ Winners are selected from more than **25 fields**, which cover such genres as pop, rock, rap etc. **The honorees receive a golden statuette of a gramophone.**

### 9.2. RAJA RAM MOHAN ROY AWARD 2023 PRESENTED TO JOURNALIST A.B.K. PRASAD.

- ❖ The Raja Ram Mohan Roy National Award will be presented to Journalist A.B.K. Prasad for his contributions towards journalism.
  - A.B.K. Prasad has devoted his 75 years of life to journalism. He has worked as an editor in major journals in AP. Also, he worked as the Chairman of the Official Language Commission between 2004 and 2009.
- ❖ The Press Council of India presents awards in the name of the legend every year.
- ❖ Raja Ram Mohan Roy founded Brahma Samaj in 1828 and played a major role in abolishing Sati.

### 9.3. PRESIDENT'S COLOUR AWARD.

- ❖ Ministry of Home Affairs (MHA) recently presented President's Colour award to Haryana Police in Karnal, Haryana.
- ❖ President's Colour Award is a unique honour conferred by President on armed forces that have rendered exceptional service to country.
- ❖ The award serves as recognition of the sacrifices made by police personnel in the line of duty and a tribute to their unwavering commitment to serve and protect people.
- ❖ **Indian Navy** was the **first Indian Armed Force**, to be awarded the President Colour in 1951.
- ❖ It is given to police **after a review of 25 years of continuous service** and service with valour and dedication.

### 9.4. KARNATAKA BANK AWARDED PRATHISTA PURASKAR.

- ❖ Karnataka Bank was awarded with 'Prathista Puraskar' under 'Digidhan Awards 2021-22' by Ministry of Electronics and Information Technology (MeitY), government of India for achieving target with highest percentage in BHIM-UPI transactions in private sector bank category.
- ❖ Labelled as 'KBL-NxT', the bank is currently undertaking an accelerated digital drive under its transformation journey 'KBL VIKAS 2.0'.
  - Karnataka Bank Limited is an Indian private sector bank based in Mangalore.

### 9.5. SANSAD RATNA AWARDS.

- ❖ Prime Minister recently congratulated Members of Parliament who will be conferred the Sansad Ratna Awards 2023.
- ❖ The Jury Committee has chosen a total of 13 MPs and two parliamentary committees for the award, with a lifetime award being presented for the first time this year.
- ❖ The Sansad Ratna Awards were instituted in 2010, inspired by the teachings of former President APJ Abdul Kalam, who launched the first edition of the Award function in Chennai. They seek to recognise and felicitate the top-performing MPs on the basis of their work in the apex legislative body.
  - ✓ So far, 90 Parliamentarians have been given this award.
- ❖ The Sansad Ratna Awards are not given by the Government of India but by The Prime Point Foundation.
- ❖ The jury committee is composed of eminent Parliamentarians and members of civil society.
- ❖ The nominations were based on an MP's cumulative performance in Parliament, from the beginning of the 17th Lok Sabha until the end of Winter Session 2022.
- ❖ Factors that the decision is based on include- questions asked, private members' Bills introduced, debates initiated, attendance, funds utilised, etc.

### 9.6. DR. MAHENDRA MISHRA AWARDED THE INTERNATIONAL MOTHER LANGUAGE AWARD IN DHAKA.

- ❖ Dr. Mahendra Kumar Mishra, an Indian educator and social worker for the advancement of indigenous languages in Odisha, received the World Mother Language Award from PM Sheikh Hasina in Dhaka, Bangladesh.
- ❖ Dr. Mishra has worked over three decades on the language, culture and education of the marginalised languages of Odisha.

### 9.7. RRR WINS 'BEST INTERNATIONAL FILM' AWARD AT HCA

- ❖ SS Rajamouli's directorial, 'RRR' has bagged the 'Best International Film' award at the Hollywood Critics Association Film Awards.
- ❖ Before bagging the 'Best International Film' award, 'RRR' won three awards at HCA – 'Best Action Film', 'Best Stunts', and 'Best Original Song'.

### 9.8. PM PRAISES WINNERS OF USTAD BISMILLAH KHAN YUVA PURASKAR.

- ❖ Artists named by PM who were conferred with Ustad Bismillah Khan Yuva Puraskar include-
- ❖ Joydeep Mukherjee for **Sursingar**.
- ❖ Uppalpu Nagmani has been awarded for Carnatic Instrumental on the **Mandolin**.
- ❖ V Durga Devi ji has won this award for '**Karakattam**', an ancient dance form.
- ❖ Sangram Singh Suhas Bhandare has been awarded for Warkari Kirtan.
- ❖ Saikhom Surchandra Singh for mastery in making Meitei Pung Instrument.
  - ✓ This instrument has connections with Manipur.
- ❖ Pooran Singh, a Divyang Artist, who popularized various Music Forms such as - Rajula-Malushahi, Nyuli, Hudka Bol, Jagar.

#### RELATED INFORMATION

##### Ustad Bismillah Khan Yuva Puraskar:

- ❖ Sangeet Natak Akademi instituted "Ustad Bismillah Khan Yuva Puraskar" from the year 2006 to be awarded to artists who have shown / demonstrated conspicuous talent in the fields of music, dance and drama.
- ❖ Young artist upto the age of 40 years are eligible
  - ✓ It is not given posthumously.
- ❖ Yuva Puraskar will be given annually and the total number of Yuva Puraskar in a year is limited to 33.

##### SURSINGAR:

- ❖ Sursingar is a stringed instrument made of ivory and wood. This traditional instrument is found in various parts of North India.
- ❖ The strings of the instrument are usually four in number and made of brass or bronze, and are plucked with a metal pick.



- ❖ The Sursingar (along with the Rudra Veena and the Surbahar) usually accompanies Dhrupad, the genre of **Hindustani vocal music** which has a low, deep, and thoughtful pitch.

#### **KARAKATTAM:**

- ❖ Karakattam is an ancient folk dance of **Tamil Nadu** in which performers in colourful saris dance with a pot (karakam) on their head to invoke Mariamman, the goddess of rain.
- ❖ Traditionally, this dance is categorized into two types:
  - ✓ Aatta Karakam symbolizes joy and happiness. It is mainly performed as entertainment.
  - ✓ Sakthi Karakam is performed only in temples as a spiritual offering.
- ❖ It involves three tiers of flower arrangements of different colours sitting on top of a container filled to the brim with either water, rice, or soil.
- ❖ Other highlights include blowing fire, inserting needles into eyes, and keeping balance while holding a bottle parallel to the ground on the performer's back.

#### **MANDOLIN**

- ❖ It is a stringed instrument, usually with eight strings that are plucked with a pick.
- ❖ The Mandolin is a moderately sized instrument, smaller than the Veena, Sitar, or guitar, and was developed in Europe in the 18th century as an evolution of the older Mandora (Mandola).
- ❖ The instrument's modern form and proportions were strongly influenced by its maker Pasquale Vinaccia of Naples.
- ❖ The Mandolin has long been part of the Indian film music tradition, having been used by several great composers.

### **9.9. MARCONI PRIZE.**

- ❖ Recently, Computer scientist Hari Balakrishnan was awarded the 2023 Marconi Prize.
- ❖ Dr. Balakrishnan has been cited for fundamental contributions to wired and wireless networking, mobile sensing, and distributed systems.

#### **ABOUT THE PRIZE**

- ❖ The Marconi Prize is a top honour for computer scientists and is awarded by the U.S.-based Marconi Foundation.
- ❖ It is given to those who have made a significant contribution to increasing digital inclusivity through advanced information and communications technology.

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## 10. POLICY AND PROGRAMME

### 10.1. INDIAN RAILWAYS TO SPRUCE UP 90 STATIONS IN SOUTH UNDER AMRIT BHARAT SCHEME.

- ❖ The Union Ministry of Railways launched **Amrit Bharat Station Scheme** in December 2022 to modernize over 1,000 small stations over the coming years.

#### AMRIT BHARAT STATION SCHEME

- ❖ The scheme envisages the **development of stations on a continuous basis with a long-term vision.**
- ❖ The scheme aims at preparation of Master Plans of the Railway stations and implementation of the Master Plan in phases to enhance the facilities.
- ❖ **Key features** for these proposed stations:
  - ✓ provisions for roof top plazas,
  - ✓ longer platforms,
  - ✓ ballastless tracks,
  - ✓ and 5G connectivity.
- ❖ **Other Facilities Planned under this Scheme**
  - ✓ Smooth access by widening of roads, properly designed signages, dedicated pedestrian pathways, well planned parking areas, improved lighting.
  - ✓ High level platforms(760-840 mm) shall be provided at all categories of stations.
  - ✓ Provide good cafeteria/retail facilities.
  - ✓ Space shall also be created for Executive Lounges and places for small business meetings.
- ❖ The scheme will subsume all previous redevelopment projects where work is yet to begin.

### 10.2. CENTRE EXTENDS DEADLINE FOR SOLAR SCHEME- PRADHAN MANTRI KISAN URJA SURAKSHA EVAM UTTAM MAHABHIYAN (PM KUSUM) SCHEME.

- ❖ The deadline for **The Pradhan Mantri Kisan Urja Suraksha Evam Uttham Mahabhiyan (PM-KUSUM)** scheme to install 30,000 MW solar power capacity in rural India by 2022, has now been pushed to 2026 due to Covid- 19.

#### ABOUT PM-KUSUM

- ❖ It is a scheme by the **Ministry of New and Renewable Energy** launched in 2019.
- ❖ It is aimed at **ensuring energy security** for farmers in India, along with India's commitment to increase the share of installed capacity of electric power from non-fossil-fuel sources **to 40% by 2030** as part of **Intended Nationally Determined Contributions (INDCs)**.

#### THE SCHEME CONSISTS OF THREE COMPONENTS:

- ❖ **Component A:** Addition of 10,000 MW of solar capacity through installation of small solar power plants of capacity up to 2 MW. **Procurement Based Incentive (PBI)** will be provided for the first five years by MNRE to DISCOMs, for buying the power from farmers/developers.
- ❖ **Component B:** Installation of 20 lakh standalone solar powered agricultural pumps.
- ❖ **Component C:** Solarisation of 15 lakh existing Grid-connected Agriculture Pumps.
- ❖ **Centre's Assistance of 30%, State Government subsidy 30%; Remaining 40% by the farmer** will be provided in component B and C.
- ❖ In North Eastern States, Sikkim, J&K, Himachal, Uttarakhand, Lakshadweep and A&N Islands, **Centre's assistance of 50%, State Government subsidy 30%, Remaining 20% by the farmer.**
- ❖ **Expected Outcomes-** Employment Generation, Enhancing farmers' income, Reliable day-time power, Reducing Carbon Emissions, Boost to domestic production etc.

### 10.3. MADHYA PRADESH GOVT. LAUNCHES MUKHYAMANTRI TIRTH-DARSHAN YOJANA.

- ❖ Under the scheme, the senior citizens will be taken on a spiritual tour free of cost. They will be taken to pilgrim sites that are located outside the state. One or two pilgrimage sites will be visited by them. The scheme is funded by the Government of Madhya Pradesh.
- ❖ The scheme is applicable only to senior citizens, that is, persons of age 60 years
- ❖ For women, two years of age concession is provided

- ❖ The scheme is to be implemented with the help of IRCTC.
- ❖ During the travel, the tourists will be provided with food, accommodation, bus travel cost, drinking water, etc. meaning all the expenses will be borne by the State Government.

#### ELIGIBILITY

- ❖ Only the MP state people shall apply for the scheme.
- ❖ He or she applying to the scheme should not be an income taxpayer.
- ❖ Physical and mental fitness certificates are essential to apply for the scheme. The applicants should not be suffering from diseases like TB, obstructive respiratory diseases, mental illness, etc.

### 10.4. NAMASTE SCHEME TO ERADICATE UNSAFE SEWER AND SEPTIC-TANK CLEANING PRACTICES INTRODUCED.

- ❖ Union Budget 2023-2024 has allocated nearly Rs 100 crore for the National Action for Mechanized Sanitation Ecosystem (NAMASTE) and the government is looking to enable 100% mechanical desludging of septic tanks and sewers in all cities and towns.
- ❖ The process of extending the Scheme to all the Urban Local Bodies (ULBs) of the country has been initiated.

#### MANUAL SCAVENGING

- ❖ Manual scavenging is defined as “the removal of human excrement from public streets and dry latrines, cleaning septic tanks, gutters and sewers”.
- ❖ India banned the practice under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (PEMSR). The Act recognizes manual scavenging as a “dehumanizing practice”.

#### MAIN FEATURES OF THE SCHEME TO BE IMPLEMENTED IN ALL ULBS ARE:-

1. **Identification:** NAMASTE envisages identifying the Sewer/Septic Tank Workers (SSWs).
2. Occupational Training and distribution of PPE Kits to SSWs.
3. Assistance for Safety Devices to Sanitation Response Units (SRUs).
4. Extending Health Insurance Scheme Benefits to identified SSWs and their families under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).
5. **Livelihood Assistance:** The Action Plan will promote mechanization and enterprise development by providing funding support and subsidy (capital +interest) to the sanitation workers, to procure sanitation related equipments.
6. **IEC Campaign:** Massive campaigns would be undertaken jointly by the ULBs & NSKFDC to spread awareness about the interventions of NAMASTE.

#### ABOUT NAMASTE SCHEME

- ❖ It was launched in 2022 as a Central Sector Scheme.
- ❖ The scheme is being undertaken jointly by the Ministry of Housing and Urban Affairs and the Ministry of Social Justice & Empowerment (MoSJE) and aims to eradicate unsafe sewer and septic tank cleaning practices.
- **Objectives:**
  - Zero fatalities in sanitation work in India.
  - No sanitation workers come in direct contact with human faecal matter.
  - Sanitation workers are collectivised into Self Help Groups (SHGs) and are empowered to run sanitation enterprises.
  - Strengthened supervisory and monitoring systems at National, State and Urban Local Body (ULB) levels.
  - Increased awareness among sanitation services seekers.

### 10.5. SUKANYA SAMRIDDI ACCOUNT (SSA) SCHEME

- ❖ In a special drive, a total of 10,90,000 Sukanya Samriddhi Accounts were opened at more than 1 lakh post offices across India in just two days, on February 9 and 10.

#### ABOUT THE SCHEME

- ❖ The Sukanya Samriddhi Account scheme is a long-term saving scheme for a girl child and aims to encourage parents to build a fund for future education and marriage expenses of their daughters.

- ❖ Account is opened in name of a girl child till child attains age of 10 years in post offices and notified branches of commercial banks.
- ❖ Minimum deposit of Rs.250 and maximum of Rs. 1,50,000 can be deposited in a financial year.
- ❖ The accounts mature after the girl reaches the age of 21 years or at the time of marriage of the girl in whose name the account has been opened.
- ❖ Tax benefit is available under section 80C of Income-tax Act.

### 10.6. GOVT INTEGRATES BHASHINI MISSION'S CAPABILITIES WITH UPI ECOSYSTEM

- ❖ Government run National Language Translation Mission or Bhashini Mission's capabilities have been integrated with UPI ecosystem to make digital payments through UPI 123 Pay available in more than 20 local Indian languages.
- ❖ **Bhashini Mission** was launched by **Ministry of Electronics & Information Technology** (MeitY).
- ❖ It is a local language translator mission that aims to break the barrier between various Indian tongues by using technology. Bhashini platform is interoperable and will catalyze entire Digital Ecosystem.
- ❖ This platform will make Artificial Intelligence (AI) and Natural Language Processing (NLP) resources available to Indian MSMEs, startups and innovators in public domain.

### 10.7. RIVERS CITY ALLIANCE (RCA) MEETING DHARA 2023.

- ❖ DHARA 2023 (Driving Holistic Action for Urban Rivers), annual meeting of RCA members, was held recently in Pune.
- ❖ The DHARA event this year has strong synergies with the Urban20 initiative under the ambit of India's G20 Presidency.
- ❖ DHARA provides a platform to co-learn and discuss solutions for managing local water resources.
- ❖ RCA is a dedicated platform for river cities to ideate, discuss and exchange information for sustainable management of urban rivers.
  - ✓ It focuses on three broad themes- Networking, Capacity Building and Technical Support.
- ❖ RCA includes **cities from both Ganga basin and non- Ganga basin states**.
- ❖ RCA is a partnership of Ministry of Jal Shakti and Ministry of Housing and Urban Affairs.

### 10.8. CENTRE PUSHING STATES TO ORDER ELECTRIC BUSES UNDER FAME II SCHEME.

- ❖ Ministry of Heavy Industries is pushing state governments to place more orders for e-buses to meet target under FAME-II scheme.
- ❖ Presently the deployment of e-buses by states under the plan is at 31% of target.

#### About Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles-FAME scheme

- ❖ MHI had launched FAME scheme in 2015 under National Electric Mobility Mission Plan (NEMMP) to encourage electric and hybrid vehicle purchase by providing financial support.
- ❖ FAME Phase I, functional till 2019, had **four focus areas** i.e.,
  - ✓ technological development, demand generation, pilot project and charging infrastructure components.
- ❖ FAME-II was launched in 2019 with an outlay of Rs 10,000 crore for three-year period but was extended till March 2024.
  - ✓ Generate demand by way of supporting 7000 e-bus, 5 lakh e-3 wheelers, 55000 e-4 wheelers and 10 lakh e-2 wheelers.
  - ✓ Implemented through three components i.e., Demand Incentives, Establishment of network of Charging Stations, and Administration of Scheme including Publicity, IEC (Information, Education & Communication) activities.
- ❖ NEMMP 2020, unveiled in 2013, is a National Mission document providing the vision and roadmap for faster adoption of electric vehicles and their manufacturing in country.

### 10.9. MINISTRY OF COAL LAUNCHED 'KHANAN PRAHARI' MOBILE APP TO CURB ILLEGAL MINING.

- ❖ The Government of India has launched a mobile app "KhananPrahari" and a web app Coal Mine Surveillance and Management System (CMSMS) for reporting unauthorized coal mining activities so that monitoring and taking suitable action on it can be done by the concerned Law & Order enforcing authority.
- ❖ The CMSMS has been developed to curb illegal mining and take transparent action as an e-Governance initiative of GoI on the use of Space Technology

- ❖ The objective of the development and launching of the CMSMS application was to detect citizens' participation against illegal mining by receipt of citizen complaints through a mobile app – Khanan Prahari.
- ❖ The app will help to monitor and take action on any kind of illegal coal mining activity being carried out within the leasehold boundaries of any Coal Mining Project in the Coalfield Areas.

## 10.10. KRISHI UDAN

- ❖ Centre govt is planning to include 21 more airports under krishi udan scheme.

### ABOUT KRISHI UDAN SCHEME

- ❖ Krishi UDAN Scheme was launched in August 2020, on international and national routes to assist farmers in transporting agricultural products so that it improves their value realisation. Krishi Udan 2.0 was launched in 2021
- ❖ The scheme aims to ensure seamless, cost-effective, time-bound air transportation and associated logistics for all agri-produce.
- ❖ Krishi Udan Scheme is a **convergence scheme** where **eight Ministries/Departments** namely Ministry of Civil Aviation, Department of Agriculture & Farmers' Welfare, Department of Animal Husbandry and Dairying, Department of Fisheries, Ministry of Food Processing Industries, Department of Commerce, Ministry of Tribal Affairs, Ministry of Development of North-Eastern Region would leverage their existing schemes to strengthen the logistics for transportation of Agri-produce.
- ❖ Under Krishi UDAN 2.0, perishable food items from tribal communities, Northeastern states, and hilly regions would be transported.

### MAIN OBJECTIVES OF KRISHI UDAN 2.0

- ❖ Facilitating and incentivizing movement of agri-produce by air transportation
- ❖ Strengthening cargo related infrastructure at airports and off airports
- ❖ Resources-Pooling through establishing Convergence mechanism
- ❖ Technological convergence: Development of E-KUSHAL (Krishi UDAN for Sustainable Holistic Agri-Logistics). Platform to be developed facilitate in information dissemination to all the stakeholders.

## 10.11. VIBRANT VILLAGES PROGRAMME GETS CABINET GO AHEAD

- ❖ The decision was passed by Union Cabinet to ensure services and development reaches the border regions under the centrally-sponsored scheme.
  - ✓ The program would have components of central sector schemes with 100 per cent direct funding and focus on factors such as economic growth, livelihood generation, road connectivity, development of cooperative sectors for 24x7 electricity and water, along with the promotion of tourism of culture.
- ❖ An amount of ₹4,800 crores have been allocated to the development of the villages along the northern border under the 'Vibrant Villages Programme' (VVP).
  - ✓ Out of total Rs. 4800 Crore, 2500 crore rupees will be used for roads.
- ❖ The approved funds would aim to develop essential infrastructure and generate livelihood opportunities in 19 districts and 46 border blocks in **four states - Himachal Pradesh, Sikkim, Uttarakhand, Arunachal Pradesh, and the Union Territory Ladakh.**
  - ✓ As a part of the project's first phase, 663 villages in the north will be taken up.
- ❖ The growth development model will be centred on the '**hub and spoke model**' and look into **promoting and empowering entrepreneurs, youth, and women.**
- ❖ It would also **tailor the projects according to the region** and look into the economic drivers based on the locally-available natural, human, and other resources.
- ❖ Traditional knowledge, heritage, and potential for sustainable eco-agri-businesses to be emphasized in planning and executing projects.
- ❖ The core idea associated with taking VVP to the remote border villages is to ensure all government schemes reach even the remotest villages for development and also from national security perspective.

### SCHEME IMPLEMENTATION

- ❖ Each village panchayat will create Vibrant Village Action Plan with the help of the District administration.
- ❖ Focus should be on drinking water, 24/7 electricity, all-weather roads, solar energy projects, wind energy projects, internet connections, tourist centres, health and wellness centres, multi-purpose centres, etc

### 10.12. GOVT. LAUNCHES BEST TOURISM VILLAGE COMPETITION PORTAL.

- ❖ Best tourism village competition was formulated to develop and promote rural tourism.
  - ✓ Ministry Of Tourism (MoT) will select the best villages through **three-level competitions—district, state and national.**
- ❖ Nationally awarded village will be featured on different portals including government websites.
  - ✓ **Nine-point evaluation criteria** of best villages have been aligned with Sustainable Development Goals.
- ❖ MoT also launched **Rural Tourism Portal, Visit India Year 2023 initiative** and **Global Tourism Investors' Summit (GTIS) 2023 portal.**
  - ✓ First GTIS in May 2023 will showcase investible projects and opportunities in tourism and hospitality sector in India.
- ❖ Rural tourism has been identified as one of niche tourism areas for development by MoT.
- ❖ Initiatives for rural tourism
  - ✓ Rural Circuit has been identified as one of 15 thematic circuits under Swadesh Darshan Scheme.
  - ✓ National Strategy & Roadmap for Development of Rural Tourism (NSRDRT) in India.

### 10.13. UIDAI LAUNCHES CHATBOT AADHAAR MITRA.

- ❖ Unique Identification Authority of India (UIDAI) launched its chatbot 'Aadhaar Mitra'.
- ❖ A Chatbot is software that simulates human-like conversations with users via chat. Artificial Intelligence/Machine Learning (AI/ML)-based chatbot can answer queries related to Aadhaar.
- ❖ It can provide information about most Aadhaar services such as Aadhaar Centers, Aadhaar Enrolment/Update status, PVC i.e., plastic card order status, Complaint status etc.
- ❖ It is available in both English and Hindi languages.
- ❖ Residents can simply type their query in the chatbot and get the desired answers immediately.
- ❖ Aadhaar Mitra also offers an added feature of watching related videos and is regularly trained on latest developments and features of Aadhaar.

### 10.14. SAGAR PARIKRAMA PROGRAM PHASE III.

- ❖ Recently, Sagar Parikrama Program Phase III was initiated by the Department of Fisheries from Surat, Hazira Port, Gujarat.
  - ✓ The Phase –I and Phase- II programmes of 'Sagar Parikrama' were organized in March 2022 and September 2022 respectively.
- ❖ Sagar Parikrama program shall be celebrated in all coastal States/UTs through a pre-decided sea route from Gujarat, Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Andaman & Nicobar, and Lakshadweep Islands.

#### ABOUT

- ❖ Sagar Parikrama is an initiative of Government of India in the sea across the coastal belt demonstrating solidarity with all fisherfolk, fish farmers and concerned stakeholders as a spirit of 75th Azadi Ka Amrit Mahotsav.

#### OBJECTIVES

- ❖ To resolve the issues of the fishers and other stakeholders.
- ❖ Facilitate their economic upliftment through various fisheries schemes and programs being implemented by the government of India such as Pmmsy.
- ❖ To focus on sustainable balance between the utilization of marine fisheries resources for the food security of the nation and livelihoods of coastal fisher communities.

### 10.15. MEMBERS OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME (MPLADS) - REVISED GUIDELINES.

- ❖ Ministry of Statistics and Programme Implementation (MoSPI) released revised guidelines to broaden scope of Scheme so as to enable MPs to recommend developmental works as per changing needs of community with an emphasis on improving the functioning, implementation and monitoring of the scheme.

- ❖ Also, a new Web-Portal was launched for implementation of Revised Fund Flow Procedure under MPLADS. It will facilitate real-time monitoring, greater transparency and accountability in the system.

#### **ABOUT MPLADS**

- ❖ MPLADS, a Central Sector Scheme launched in 1993, enables MPs to suggest and get executed developmental works of a capital nature based on locally felt needs with an emphasis on creation of durable assets.
- ❖ Recommendation of works by MPs-
  - ✓ Lok Sabha MP- in their Lok Sabha constituency.
  - ✓ Rajya Sabha MP- within their state of election.
  - ✓ Nominated members of Lok Sabha and Rajya Sabha- anywhere in the country.
- ❖ Under it, MPs receive Rs.5 crore each year in two instalments of Rs. 2.5 crore each.
- ❖ Funds under MPLADS are non-lapsable.
- ❖ Every year, M.P. shall recommend atleast 15% of MPLADS funds for areas inhabited by S.C. population and 7.5 percent for areas inhabited by S.T. population.
- ❖ District Authority is responsible for overall coordination and supervision of works under scheme at district level.
- ❖ Nodal Ministry - Ministry of Statistics and Programme Implementation (MoSPI)

### **10.16. NATIONAL DATA AND ANALYTICS PLATFORM (NDAP).**

- ❖ National Data and Analytics Platform enables policy-makers and researchers to exploit the potential of government data

#### **ABOUT NDAP:**

- ❖ In May 2022, the NITI Aayog, in collaboration with ministries and state governments launched a transformational open data platform called the NDAP.
- ❖ It serves foundational datasets from central and state government entities in machine-readable formats, with user-friendly interface and powerful analytics.
- ❖ The platform uses cutting-edge methods to link diverse datasets from across the government and enables the use of several types of data at once.
- ❖ NDAP's target users include policymakers, civil servants, university students and researchers, journalists, innovators, and civil society groups.
- ❖ As of Feb 2023, NDAP hosts 885 datasets from across 15 sectors and 46 Ministries.

#### **OBJECTIVE:**

- ❖ It is designed to solve the issues that limit the use of government data today, the design process of NDAP was preceded by extensive research with diverse data users to learn about their demand for government data, skills to use it effectively and challenges faced in doing so.

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## 11. APPOINTMENTS

### 11.1. BVR SUBRAHMANYAM APPOINTED NEW NITI AAYOG CEO.

- ❖ Former IAS officer BVR Subrahmanyam has been appointed as the new Chief Executive Officer of Niti Aayog for two years. He takes over from Parameswaran Iyer.
- ❖ Subrahmanyam's appointment as NITI Aayog CEO was announced by the Appointments Committee of the Cabinet.

### 11.2. RAJEEV RAGHUVANSHI APPOINTED AS NEW DRUG CONTROLLER GENERAL OF INDIA.

- ❖ Rajeev Singh Raghuvanshi has been appointed as the new Drug Controller General of India (DCGI), Central Drugs Standard Control Organization (CDSCO). He will hold the position till Feb 28, 2025.
- ❖ Rajeev Singh Raghuvanshi is a former Indian Pharmacopoeia Commission secretary-cum-scientific director.
- ❖ He will supersede Dr. PBN Prasad who is holding the position till 28th February 2023.

## 12. ENVIRONMENT

### 12.1. PLAN IN PLACE TO ERADICATE INVASIVE PLANT SPECIES FROM KERALA'S WILDLIFE HABITAT.

- ❖ Kerala has come out with a management plan to eradicate *Senna spectabilis*, the exotic invasive plant that is posing a severe threat to the State's wildlife habitat.
- ❖ The management plan stipulates that there should not be an attempt to kill the trees before a detailed reforestation programme and the resources for implementing it are in place.

#### ABOUT SENNA SPECTABILIS

- ❖ *Senna spectabilis* is a deciduous tree native to tropical areas of America.
- ❖ It grows up to 15 to 20 metres in a short period of time and distributes thousands of seeds after flowering.
- ❖ The thick foliage of the tree arrests the growth of other indigenous tree and grass species. Thus, it causes food shortage for the wildlife population, especially herbivores.
- ❖ It also adversely affects the germination and growth of the native species.
- ❖ It is categorised as 'Least Concern' under IUCN Red List.

#### ERADICATION PLAN

- ❖ The plan envisages landscape-level management of the tree.
- ❖ Once the resources and material for landscape restoration are ready, the invasive species has to be removed using a threefold approach for large trees, large saplings, and small saplings.
  - The large trees need to be debarked from breast height downwards (1.3 m above ground level), including the collar part of the tree. Once done, the trees should be visited once a month to remove the new growth across the debarked area.
  - The larger saplings can be uprooted using specially designed weed pullers.
  - The third is the removal of small plantlets which need to be removed mechanically.
- ❖ The large trees would take a minimum of 18 months to completely dry up after debarking.

#### INVASIVE SPECIES

- ❖ An invasive species is an organism that causes ecological or economic harm in a new environment where it is not native.
- ❖ They are capable of causing extinctions of native plants and animals, reducing biodiversity, competing with native organisms for limited resources, and altering habitats.
- ❖ They can be introduced to an area by ship ballast water, accidental release, and most often, by people.
- ❖ There are many invasive species in India. For eg: Charru Mussel, Lantana bushes, Indian Bullfrog, etc.

### 12.2. SNAKES KILL MORE HUMANS THAN WILD ELEPHANTS DO IN KERALA, SAYS FOREST DEPT.



Recently, a report by the Kerala Forest department stated that **Snakebites results in the highest number of human deaths** nearly double that of wild elephants.

#### ABOUT

- ❖ As per ICMR study India has seen an estimated 1.2 million (12 lakh) snakebite deaths from 2000 to 2019, an average of 58,000.
- ❖ India accounts for almost 50% of global snakebite deaths.
- ❖ The snakebite envenoming (poisoning from snake bites) was classified by the World Health Organisation (WHO) as a high-priority neglected tropical disease.

#### SNAKEBITE ENVENOMING

- ❖ Snakebite envenoming is a potentially life-threatening disease caused by toxins in the bite of a venomous snake. Envenoming can also be caused by having venom sprayed into the eyes by certain species of snakes that have the ability to spit venom as a defence measure.
- ❖ Snake venom contains a number of enzymes or proteinaceous substances, present in varying amounts according to the species of snake, which attack the blood, the nervous system, or other tissues.

#### IMPACTS OF SNAKE BITING

- ❖ Some venoms produce **direct toxic effects**, but not all of them are lethal to human beings. Some are **systemically lethal** (e.g., the venom of the rattlesnake), whereas some are destructive primarily to tissue in the vicinity of the bite but may cause the development of gangrene.
- ❖ It is considered a **poor person's disease or a rural problem**. People who get bitten by snakes are usually from marginalised communities, rural backgrounds, women, and children.
- ❖ **Big four medically significant snakes:** It is a theory that claims that four species of snakes in South Asia, **Russell's viper, saw-scaled viper, spectacled cobra, and the common krait** bite people the most in this region.
- ❖ In India, around 90% of snakebites are caused by the 'big four'.

#### CURE OF SNAKE BITING

- ❖ Snake antivenoms are effective treatments to prevent or reverse most of the harmful effects of snakebite envenoming. They are included in the **WHO Essential Medicines List**.
- ❖ **Antivenoms:** Antivenoms are purified antibodies against venoms or venom components. Antivenoms are produced from antibodies made by animals to injected venoms. Antivenom is the only definitive treatment for effective bites by venomous snakes.
- ❖ **Antivenoms making process:** To make life-saving antivenoms, scientists enlist the help of horses that live on specialized ranches.
  - ✓ The scientists inject the animals with a tiny, harmless dose of venom, which causes their immune systems to produce antibodies proteins that attack and disable the venom toxins.
  - ✓ Then the scientists can collect the antibodies and use them to treat people who have been bitten or stung.

#### STEPS TAKEN

- ❖ **Inclusion of snakebite management** in the curriculum of training institutions of state public health departments in India, mandatory short-term training of medical graduates during their internship and also as a part of the induction training on joining state health services in India.
- ❖ Snakebite prevention is to be included under a national programme by the Union government.
- ❖ A multi-sectoral approach of community awareness, capacity building of healthcare facilities for reducing the mortality and morbidity due to snakebite envenoming in India.
- ❖ Every village-level health centre has Anti Snake Venom (ASV), which is the first stage of treatment, something that wasn't easily available in rural India before.
- ❖ Even WHO launched its roadmap with an aim to halve death and disability from snakebite by 2030.

### 12.3. IISER BHOPAL CRACKS DRAFT GENOME OF FOUR INDIAN COW BREEDS.

- ❖ For the first time, Indian Institute of Science Education and Research has unravelled genetic makeup of native Indian cow breeds i.e., **Kasargod Dwarf, Kasargod Kapila, Vechur, and Ongole**.
- ❖ Native Indian cows have special abilities such as tolerant to heat, resistant to certain diseases.
  - ✓ Till now, there is no genome of Indian cows available and country dependent other countries.

- ❖ The scientists have identified a specific set of genes in the native Indian cow breeds that showed sequence and structural variation compared to the genes of the western cattle species. This may provide valuable insights into how Indian breeds adapt to tropical conditions.
  - ✓ The genome structure can be used to improve the breeding and management of these cows, leading to increased productivity and sustainability in the Indian cattle industry, said IISER.
- ❖ The genome is like a blueprint or a set of instructions required by an organism, like a plant or animal, to live and survive.
  - ✓ It's made up of tiny units called genes, which contain the information needed for the organism to grow, develop, and function properly.
- ❖ By understanding the genome, scientists can learn important information about the organism, like how it might be related to certain diseases or traits.

#### 12.4. SUPREME COURT SEEKS CENTRE'S STAND ON HAVING STATUTORY BODY FOR ELEPHANTS.

- ❖ The Supreme Court asked the Centre whether it intended to have a statutory authority for protecting elephants.
- ❖ In 2010, the 'Gajah report' from Elephant Task Force made a slew of recommendations to protect and preserve the elephant population, including the:
  - ❖ Constitution of a statutory National Elephant Conservation Authority (NECA) on the lines of National Tiger Conservation Authority (NTCA).

#### ABOUT ASIAN ELEPHANTS (ELEPHAS MAXIMUS)

- ❖ It is a keystone species playing a critical role in sustenance of wildlife and biodiversity.
- ❖ **IUCN Status:** Endangered
- ❖ In Appendix I of the Convention of the Migratory species.
- ❖ In Schedule I of the Wild Life (Protection) Act, 1972.
- ❖ More than 60 % of the population of Asian elephants is found in India.

#### INITIATIVES FOR ELEPHANT SAFETY

- ❖ Project Elephant, a centrally sponsored scheme launched in 1992 for management of wildlife and its habitats in the country.
- ❖ In 2010, it was declared India's National Heritage Animal.
- ❖ Approval to 33 Elephant Reserves by Centre with a total area of nearly 80,000 sq km.
  - ✓ In 2022, Terai Elephant Reserve (TER) was set up in Uttar Pradesh.

#### 12.5. YAYA TSO TO BECOME LADAKH'S FIRST BIODIVERSITY HERITAGE SITE (BHS).

- ❖ Yaya Tso, known as birds' paradise for its beautiful lake located at an altitude of 4,820 metres, has been proposed as Ladakh's first biodiversity heritage site (BHS). Local Biodiversity Management Committee, concerned panchayat, along with SECURE Himalaya Project recently resolved to declare Yaya Tso as Ladakh's first BHS.
- ❖ Yaya Tso is a nesting habitat for a large number of birds and animals, such as the bar-headed goose, black-necked crane and brahminy duck. It is one of the highest breeding sites of the black-necked crane in India.

#### BIODIVERSITY HERITAGE SITES

- ❖ BHS are areas that are unique, ecologically fragile ecosystems having rich biodiversity.
- ❖ Under Biological Diversity Act (BDA) 2002, the State Governments are empowered to notify areas of biodiversity importance as Biodiversity Heritage Sites, in consultation with local bodies.
- ❖ **Criteria for BHS:** includes species richness, high endemism, presence of rare, endemic and threatened species, keystone species, species of evolutionary significance etc.
- ❖ There are 36 BHS in India; Mahendragiri hill (Odisha) is the last BHS added in 2022.

#### ABOUT SECURE HIMALAYA

- ❖ It is a joint project of Ministry of Environment, Forest and Climate Change and United Nations Development Programme (UNDP), funded by Global Environment Facility. It is aimed at conservation and protection of the high-altitude ecosystems of the Himalayas.

#### 12.6. UNEP-MANAGED CITES DATABASE REVEALS RED SANDERS SMUGGLING.

- ❖ The CITES trade database has recorded 28 incidents of Red Sanders confiscation, seizure, and specimen from the wild being exported from India, a factsheet prepared by TRAFFIC, a global wildlife trade monitoring organisation has revealed.
- ❖ According to the recently released communiqué titled “RED SANDERS: Factsheet on India’s Red Sanders in illegal wildlife trade”, China remains the largest importer with more than 13,618 tonnes of the products, followed by Hong Kong (5,215 tonnes) and Singapore (216 tonnes).
- ❖ **CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)** is an international agreement between governments, whose aim is to ensure that international trade in specimen of wild animals and plants, does not threaten the survival of the species.

#### ABOUT RED SANDERS

- ❖ Red Sanders *Pterocarpus santalinus*, or red sandalwood, is an endemic tree species with distribution restricted to the Eastern Ghats of India.
- ❖ The species found in Andhra Pradesh and growing up to a height of 10 to 15 metres, is reported to be one of India’s most exploited tree species, and is under severe pressure from illegal logging and harvesting.
- ❖ Under the foreign trade policy of India, the import of Red Sanders is prohibited, while export is restricted.
- ❖ Red Sanders is under severe pressure from illegal logging and harvesting.
  - ✓ Its heartwood is in demand in both domestic and international markets and is used to make furniture and handicrafts, while the red dye (Santalin) obtained from the wood is used as a colouring agent in textiles and medicines.
- ❖ Listed under **Schedule IV of The Wildlife Protection Act** and **Endangered as per IUCN Red List**, Red Sanders is a very slow-growing tree species that attains maturity in natural forests after 25-40 years.

#### 12.7. PACS TO OFFER SERVICES OF COMMON SERVICE CENTRES; COOPERATION MINISTRY SIGNS MoU.

- ❖ The Primary Agricultural Credit Societies (PACS) will soon start providing services offered by Common Service Centres (CSC).
- ❖ Plus they will be able to provide all the services listed on the Digital Seva Portal of CSC scheme to citizens.
  - ✓ Such services include banking, insurance, Aadhaar enrolment/update, legal services, agri-inputs like farm equipment, PAN card, etc.
- ❖ A Memorandum of Understanding (MoU) of this effect was signed between the Ministry of Cooperation, Ministry of Electronics and Information Technology, NABARD and CSC e-Governance Services India Limited.
- ❖ This will not only help in fulfilling objective of ‘Sahkar Se Samridhi’ and making cooperatives the backbone of rural development, but will also strengthen both cooperatives and farmers.
- ❖ It will help in advancing the concept of Common Service Centres (CSC) to the smallest unit of the country very easily.
- ❖ The PACS will now be able to undertake 20 different activities including water distribution, storage, Bank Mitra.
- ❖ Union Budget 2023-24 has a provision to make 2 lakh PACS in next 5 years and create a multi-purpose PACS in every Panchayat.

#### ABOUT PACS

- ❖ PACS, registered as cooperative societies, at the village level (one of the three-tier) provide short-term cooperative credit.
- ❖ Other two tiers: State Cooperative Banks at state level and District central cooperative banks.
- ❖ PACS are outside the purview of the Banking Regulation Act, 1949, and hence **not regulated by RBI**.
- ❖ Around 63,000 PACS are functional in India; providing various facilities such as input facilities, agricultural implements, and storage facilities.
- ❖ About 50 percent of the country’s population is associated with cooperatives in one way or the other.

#### 12.8. 2,357 ATTACKS IN 20 YEARS: CALM ASIATIC BLACK BEARS ON A SHORT FUSE IN KASHMIR.

- ❖ The Kashmir Valley has bucked the trend of Asiatic black bear (*Ursus thibetanus*) attacks on humans rarely reported throughout the animal’s global range.

- ❖ The **conversion of the bear's natural habitat to orchards and farmlands** is the primary reason for the ursine attacks over the past 30 years.
- ❖ Other reasons include the **India-Pakistan border fencing** which blocks the movement of the animal and a new generation of people who are not familiar with co-existing with large predators.
- ❖ Study recorded **2,357 Asiatic black bear attacks** in the Valley between 2000 and 2020. A total of 2,243 attacks or 95.2% of the cases resulted in injury and 114 attacks or 4.8% of cases in death.

#### ABOUT ASIATIC BLACK BEARS

- ❖ The Asiatic black bear is **one of eight extant species** of the bear family.
- ❖ It is a **medium-sized bear species** native to Asia that is largely adapted to an **arboreal lifestyle**.
- ❖ **It has a coat of smooth black fur and can be distinguished by a V of white fur on its chest.**
- ❖ It is spread across **Asia, from the Himalayas to the Russian Far East.**
- ❖ It has been categorised as **Vulnerable** under the International Union for Conservation of Nature's Red List of Threatened Species and is also listed under **Appendix I of CITES** and **Schedule I** of the Wildlife (Protection) Act, 1972.
- ❖ The bears are found in 83 protected areas of India, **spread across five states and 2 Union Territories in the Himalayas**
- ❖ It is **one of the large carnivore species** having negative interactions with humans in the Indian Himalayas.
- ❖ Till now, methods used to determine the population status of Asiatic black bears in India have been **limited to questionnaires, sign surveys and genetic sampling** using hair samples.

#### 12.9. PM ROLLS OUT E20 FUEL IN 15 CITIES AT INDIA ENERGY WEEK (IEW).

- ❖ E20 fuel, a blend of 20% ethanol and 80% petrol, was launched 2 year ahead of target and will be rolled out across country in a phased manner. IEW, under Ministry of Petroleum & Natural Gas, aims to showcase India's rising prowess as an energy transition powerhouse.

#### WHAT IS ETHANOL BLENDED PETROL?

- ❖ Ethanol (also called ethyl alcohol, or alcohol) is a biofuel with chemical formula  $C_2H_5OH$ . It is naturally made by the fermentation of sugar. In India, it is largely derived while extracting sugar from sugarcane. However, other organic matter like surplus rice with Food Corporation of India and Maize is also allowed.
- ❖ The government has launched the Ethanol Blended Petrol (EBP) Programme to mix this biofuel with petrol to reduce the consumption of fossil fuel.
- ❖ Government has been implementing Ethanol Blended Petrol Programme wherein OMCs sell petrol blended with ethanol up to 10%.
  - ✓ Target of achieving average 10% blending was achieved in June, 2022 and target of 20% ethanol blending was advanced to 2025 (from 2030).

#### BENEFITS OF BLENDING ETHANOL IN PETROL

- ❖ E20 fuel has been shown to result in larger reductions in carbon monoxide emissions, which are 50% lower in two-wheelers and 30% lower in four-wheelers, because ethanol promotes full combustion. Research points a 20% reduction in hydrocarbon emissions, but there is no discernible trend in nitrous oxide emissions because it depended on the type of vehicle/engine and the circumstances under which it was operating.
- ❖ In last eight years, the 10 per cent ethanol blending has saved India up to ₹53,894 crore in foreign exchange outgo while also benefiting farmers, who earned ₹49,078 crore. It resulted in a reduction of 318 lakh tonnes of CO<sub>2</sub> emissions, PTI reported.

#### SIGNIFICANCE

- ❖ Will help to contain vehicular pollution- According to 2021 data published by NITI Aayog in report titled 'Roadmap for Ethanol blending in India 2020-25', 98 per cent of the fuel requirement in the road transportation sector is currently met by fossil fuels and while only 2% by biofuels.
- ❖ Reports states that of the total oil requirement in the transportation sector, 85 percent need to be imported. Thus it can help in achieving energy security and lowering crude oil import bill
- ❖ Apart from these, the alternative use-case of sugarcane will help the farmers realise more income on their produce. This will enable local enterprises and farmers to participate in energy economy.
- ❖ The surplus and damaged rice procured by the Food Corporation of India can be used to produce ethanol. Thus reducing post production losses and wastage.

#### CHALLENGES

- ❖ Availability of sufficient raw material sustainably is required.
- ❖ Sugarcane is locally available in only some parts of India, thus the supply chain needs to be strengthened.
- ❖ There is a need for the development of infrastructure to extract ethanol
- ❖ There is a requirement of upgrading the vehicle engines to make it compliant with Ethanol blending.

### 12.10. RAJASTHAN PLANS ZOO FOR DOLPHINS, RHINOS INSIDE BHARATPUR SANCTUARY.

- ❖ The Rajasthan state Forest Department has proposed to construct a zoo inside Keoladeo National Park, a World Heritage Site popularly known as **Bharatpur bird sanctuary**, to display a range of wetland species, including rhinos, water buffaloes, crocs, dolphins and exotic species.
- ❖ As per the Detailed Project Report (DPR) of the Rajasthan Forestry and Biodiversity Development Project (RFBDP) purpose of this zoo, called **Wetland ex-situ Conservation Establishment (WESCE)**, is “to rejuvenate the biodiversity of Keoladeo National Park, thereby boosting its outstanding universal values.”
- ❖ The Rs 15-crore WESCE plan for Bharatpur is part of the ambitious RFBDP for which Agence Française de Développement (AFD), the overseas development arm of the French government, has agreed to fund up to Rs 1,200 crore over eight years.
- ❖ **According to the DPR, several facilities are planned inside Keoladeo national park. These include:**
  - ✓ A breeding and re-introduction centre for locally extinct species, such as otters, fishing cats, blackbucks, hog deer, etc, “with collateral provision as exhibits for tourists”;
  - ✓ An aquarium for indigenous species like gangetic dolphin, crocodiles;
  - ✓ Enclosures for the display of large wetland species like indian rhino, water buffalo, barasingha (swamp deer); an aviary, a reptile house and a veterinary care facility; and

#### KEOLADEO NATIONAL PARK

- ❖ It is a Ramsar as well as a World Heritage Site.
- ❖ Due to its strategic location in the middle of Central Asian migratory flyway and presence of water, large congregations of ducks, geese, coots, pelicans and waders arrive in the winter.
- ❖ Wetlands of Keoladeo are not natural, they are dependent on monsoon and on water pumped in from outside.
- ❖ Fauna and Flora: Some 364 species of birds, including rare Siberian crane.

### 12.11. RISE OF AMR COULD RESULT IN UP TO 10 MILLION ANNUAL DEATHS BY 2050: UN REPORT

- ❖ The findings are part of report by UN Environment Programme (UNEP) on environmental dimensions of AMR, which already is taking a serious toll on health of humans, animals, and plants, as well as the economy.
  - ✓ AMR occurs when microorganisms such as bacteria, viruses, parasites or fungi become resistant to antimicrobial treatments to which they were previously susceptible.

#### KEY FINDINGS OF THE REPORT

- ❖ Microorganisms (particularly bacteria) can acquire resistance following contact with resistant microorganisms that may have originated or introduced in environment.
- ❖ When antimicrobials are released into environment new AMR can develop by:
  - ✓ Spontaneous mutation, acquisition and transmission by mobile genetic elements.
  - ✓ Horizontal gene transfer events between environmental and plant, animal or human associated bacteria.
- ❖ AMR challenges are closely linked to triple planetary crisis of climate change, biodiversity loss and pollution and waste.
- ❖ 3 key sectors of AMR development and spread in environment:
  - ✓ Pharmaceuticals and other chemical manufacturing,
  - ✓ agriculture and food production,
  - ✓ Healthcare.
- ❖ Transmission and spread of AMR are not confined to point-sources. Transient and diffuse sources, which include water agricultural runoff, airborne transmission, wildlife migration etc can also be important.

#### RECOMMENDATIONS

- ❖ A concerted systems approach like One Health Approach.
- ❖ Integration of environmental considerations into AMR National Action Plans.
- ❖ Create robust national level governance, planning and legal framework.

- ❖ Increase global efforts to improve integrated water management.
- ❖ Environmental monitoring and surveillance.

## 12.12. IN A FIRST IN COUNTRY, LITHIUM RESERVES FOUND IN JAMMU AND KASHMIR.

- ❖ For the first time, Geological Survey of India GSI has established Lithium inferred resources (which are in preliminary exploration stage i.e. G3) of 5.9 million tonnes in Salal-Haimana area of Reasi District of J&K (UT).

### GEOGRAPHICAL SURVEY OF INDIA (GSI)

- ✓ GSI, attached office to Ministry of Mines, was set up in 1851 primarily to find coal deposits for Railways.
- ✓ Headquartered in Kolkata, it has six regional offices.
- ✓ It is a scientific agency of India to carry out geoscientific activities.
- ✓ The Geological Survey of India has set up 115 projects on strategic and critical minerals and 16 projects on fertiliser minerals.

### ABOUT LITHIUM

- ❖ Lithium, referred as white gold, is first of alkalis in periodic table. It's a non-ferrous metal.
- ❖ It is lightest solid metal. It is extracted from either brines or mined rocks. It has lowest density of all metals.
- ❖ 50 percent of global lithium resources are located in Bolivia (maximum), Chile, and Argentina, which forms Lithium Triangle in South America.
- ❖ Australia is global leader in lithium production.
- ❖ India has discovered first lithium reserves in igneous rocks located in Marlagalla-Allapatna region of Karnataka's Mandya district.

### SIGNIFICANCE OF LITHIUM

- ❖ Key component of rechargeable batteries (used in EVs) and energy storage solutions.
- ❖ Lithium oxide is used in special glasses and glass ceramics.
- ❖ Critical mineral for energy transition, and net-zero emissions will require higher reliance lithium.

## 12.13. HIMALAYAN PLUNDER: 3 MILLION INDIANS LIVE IN AREAS THAT CAN BE SWEEPED BY GLACIAL LAKE FLOODS, SAYS STUDY.

- ❖ Three million Indians live in areas where a glacial lake outburst flood (GLOF) can happen at any time, the first global assessment of such areas has found.
- ❖ Together with two million Pakistanis, they form a third of the total number of people worldwide facing such a risk.
- ❖ Globally, 90 million people across 30 countries live in 1,089 basins containing glacial lakes. Of these, 15 million (16.6 per cent) live within 50 kilometres of a glacial lake
- ❖ Just four highly populous countries accounted for more than 50 per cent of the globally exposed population: India, Pakistan, Peru and China.
- ❖ The population exposed to GLOFs increases with distance from a glacial lake. Almost half (48 per cent) of exposed populations are globally located between 20 km and 35 km downstream of lakes,
- ❖ Study was conducted by scientists at UK's Newcastle University, UK is first global assessment of areas at greatest risk of GLOF.

### GLACIAL LAKE OUTBURST FLOOD

- ❖ GLOF occurs from unstable natural dam formed from glacier retreat.
- ❖ When glacier retreats, it leaves behind large impression in ground filling it with water and lake is formed, this is known as moraine which can be impounded by pile of debris & ice.

### CAUSES BEHIND GLOFS

- ❖ Build-up of water pressure or structural weakness of boundary due to increase in flow of water due to climate change-induced melting.
- ❖ Earthquake (Tectonic) or cryoseism (non-tectonic seismic event of glacial cryosphere).
- ❖ Avalanche of rock or heavy snow.
- ❖ Volcanic eruptions under ice.
- ❖ Heavy rainfall/melting of snow lead to massive displacement of water in a glacial.

### **National Disaster Management Authority (NDMA) guidelines for reducing GLOFs**

- ❖ Identify and Mapping Dangerous Lakes.
- ❖ Use of Synthetic-Aperture Radar imagery to detect changes in water bodies, including new lake formations, during the monsoon months.
- ❖ Constructions and development in High prone areas should be prohibited.
- ❖ Robust early warning system in vulnerable zones should be put in place.

### **12.14. FIFTH INTERNATIONAL MARINE PROTECTED AREAS CONGRESS (IMPAC5) CONCLUDES IN VANCOUVER, CANADA.**

- ❖ IMPAC5 is a global forum that brings together ocean conservation professionals and high-level officials to inform, inspire and act on Marine Protected Areas (MPAs)
- ❖ It aims to protect 30 percent of global ocean by 2030 (i.e., 30\*30 campaign).
- ❖ It supported **Kunming-Montreal Global Biodiversity Framework**, "Our Ocean, Our Future, Our Responsibility" Call for Action and Ocean Conservation Pledge.
- ❖ It was jointly hosted by Host First Nations (Musqueam, Squamish and Tsleil-Waututh) together with International Union for Conservation of Nature (IUCN), Canadian Parks and Wilderness Society (CPWS), Government of Canada and Province of British Columbia.

#### **ABOUT**

- ❖ IMPAC congresses are a collaborative effort between the International Union for the Conservation of Nature (IUCN) and the chosen host country.
- ❖ The congress brings together scientists, policy makers, practitioners, and stakeholders from around the world to discuss the latest scientific knowledge, best practices and challenges in the management of MPAs.
- ❖ The goal of IMPAC is to advance the conservation and sustainable use of the world's marine biodiversity and to support the implementation of the United Nations Convention on Biological Diversity's goals for marine conservation and management.

#### **MARINE PROTECTED AREAS**

- ❖ MPAs are designated areas of the ocean that are set aside for the protection and conservation of marine ecosystems and their biodiversity.
- ❖ Within the region, certain activities are limited, or entirely prohibited, to meet specific conservation, habitat protection, ecosystem monitoring or fisheries management objectives.
- ❖ MPAs do not necessarily exclude fishing, research or other human activities; in fact, many MPAs are multi-purpose areas.
- ❖ Currently, an estimated 7.65% of ocean is covered by MPAs.
- ❖ Important MPAs (coastal or marine) of India.
  - ✓ They are notified as either 'national parks' or 'wildlife sanctuaries' under Wildlife (Protection) Act, 1972.
  - ✓ MPAs cover less than 4.01% of the total area of all Protected Areas of India.
  - ✓ Examples of important MPAs in India: Gulf of Kachchh Marine National Park, Gulf of Mannar National Park, Sundarbans National Park and Wandoor Marine National Park.
  - ✓ **Need of MPAs**
    - Protect marine habitats and variety of life that they support.
    - Raising the profile of an area for marine tourism and broadening local economic options.
    - Generate income through tourism and sustainable fishing.
    - Maintaining climate change resilience as it protects coastal habitats to reduce human vulnerability.

### **12.15. TUNNEL TO SAVE MANGROVES TO RAISE BULLET TRAIN PROJECT COST TO ₹10,000 CRORE.**

- ❖ A seven-km undersea tunnel will be constructed for the bullet train project in a bid to save about 12 hectares of mangrove forests in Maharashtra's Thane creek.
- ❖ This will escalate the construction cost of the Mumbai-Ahmedabad High Speed Rail Corridor project's 21-km long stretch from Bandra Kurla Complex Station to Shilphata, from ₹100 crore to ₹10,000 crore.
- ❖ The tunnel will be a single tube tunnel to accommodate both up and down tracks.
- ❖ The tunnel construction is aimed towards conserving nearly 12 hectares of mangroves in the creek.

- ❖ The tunnel will ensure the protection of the bird sanctuary and mangroves around Thane creek.

### **MUMBAI-AHMEDABAD HIGH SPEED RAIL CORRIDOR (MAHSR)**

- ❖ MAHSR is an under-construction high-speed rail line connecting India's economic hub Mumbai with the city of Ahmedabad.
- ❖ The total length of the corridor is 508 km, of which 156 km of construction will be in Maharashtra.
- ❖ It is slated to cut the shuttle time between Mumbai and Ahmedabad from over 6 hours to between 2 and 2.5 hours.

### **ABOUT MANGROVES**

- ❖ Mangroves are small trees and shrubs which grow along the coastlines. These trees thrive in salty water and form unique forests on the edge of land and the sea. They also grow in swamps.
- ❖ These forests have the ability to store up to 10 times more carbon per hectare than terrestrial forests. Mangrove forests can survive extreme weather conditions and require low oxygen levels to survive.
- ❖ Mangroves are distributed in the tropical and subtropical regions of the world and are found in 123 countries. Asia has the largest coverage of the world's mangroves, followed by Africa, North and Central America, Oceania and South America. Approximately 75% of the world's mangrove forests are found in just 15 countries.
- ❖ India contributes to nearly half of the total mangrove cover in South Asia. West Bengal has the highest percentage of mangrove cover in India. Sundarbans in West Bengal is the largest mangrove forest in the world.
- ❖ It is followed by Gujarat and Andaman, and Nicobar islands. Maharashtra, Odisha, Andhra Pradesh, Tamil Nadu, Goa and Kerala also have mangrove.

### **RECENT UPDATES**

- ❖ The Union Budget for 2023-24 announced an initiative for mangrove plantation along the coastline and on salt pan lands, under MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes).
- ❖ MISHTI will be implemented through convergence between the MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme), CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund and other sources.

## **12.16. FIRST SUNDARBAN BIRD FESTIVAL.**

- ❖ Recently, 145 different bird species were sighted during the first Sundarban Bird Festival.
- ❖ The first-ever festival was organised by the Sundarban Tiger Reserve (STR) division of the West Bengal Forest Department, where several teams visited different areas inside the Sundarban Biosphere Reserve.
- ❖ The Bird Festival provides baseline data on Sundarbans' bird species diversity.
- ❖ The Zoological Survey of India (ZSI) in 2021, had recorded 428 bird species in the Sundarbans which is one-third of all the avian species (derived from birds) found in the country.
- ❖ The species recorded during the Bird Festival included 78 forest birds and 42 species of waders, raptors etc. The two-day exercise which ended on Friday also recorded 12 species of raptors, six species of waterfowl and seven other bird species.
- ❖ Among the threatened species of the Sundarbans, **Eurasian Curlew** was spotted.
- ❖ The Sundarbans are part of the migratory routes of the Central Asian Flyway.

## **12.17. GLOBAL KELP FORESTS DECLINING AT 1.8% ANNUALLY.**

- ❖ Large underwater forests of kelp are declining by roughly 1.8 per cent annually, as per experts.

### **WHAT ARE KELPS?**

- ❖ Kelp forests are underwater areas with a high density of kelp, which covers a large part of the world's coastlines.
  - ✓ Smaller areas of anchored kelp are called **kelp beds**.
- ❖ Kelp are not plants, but rather extremely large brown algae, and many different species of kelp make up kelp forests.
- ❖ **Distribution**- Kelps cover 25 per cent of the world's coastlines and provide food and shelter for fish, invertebrates and marine mammal species.
- ❖ They are recognized as one of the most productive and dynamic ecosystems on Earth.
- ❖ They offer crucial services such as carbon sequestration and erosion control, according to scientists.

### **CHALLENGES**

- ❖ Kelps are increasingly threatened by-



- ✓ climate change,
- ✓ Eutrophication and shoreline development, among other human-induced stressors.
  - One such threat is from **bryozoa**, moss animals that grow as mats on kelps. They drive the seaweed to sink into the seafloor and disintegrate. The outbreak can be linked to high temperatures. It was found that high temperature and kelp density resulted in more bryozoan, while high wave exposure had the opposite effect.
- ❖ Dense kelp beds in warmer and less wave-exposed sites are more susceptible to bryozoan outbreaks, scientists noted.

## 12.18. ALARMING LEVELS OF 'FOREVER CHEMICALS' IN NORWEGIAN ARCTIC ICE

- ❖ An Oxford University-led study has found alarming levels of toxic PFAS, also known as “forever chemicals” in the ice around Svalbard, Norway which pose a risk to the region’s wildlife.
- ❖ The Norwegian Arctic ice consists of 26 types of PFAS compounds which once the ice melts can be passed to ecosystems like Arctic fjords and tundra.

### WHAT ARE PER- AND POLYFLUORINATED ALKYL SUBSTANCES (PFAS)?

- ❖ The PFAs refer to a class of around 12,000 chemicals which are often found in consumer products which resist water, heat or stains and are also called “forever chemicals” since they do not naturally break down over time.
- ❖ Additionally, these chemicals are linked to a number of diseases including cancer, liver disease, etc.
- ❖ Therefore, these contaminants, once passed on, can affect the entire food web from small organisms like plankton or fish to apex predators in the region like polar bears.

### USES

- ❖ **Cosmetics, electronics, textile (waterproof outdoor clothing),** paper and cardboard food packaging, in non-stick cookware.

## 12.19. MAMMATUS CLOUDS

- ❖ NASA has released picture of Mammatus clouds, hovering over Nebraska, US.

### ABOUT MAMMATUS CLOUDS

- ❖ They generally appear in connection with substantial cumulonimbus clouds, but they have also been sighted to form on other cloud types, such as stratocumulus, altostratus and altocumulus.
- ❖ Turbulence within cumulonimbus clouds often leads to formation of Mammatus clouds, particularly on bottom of projecting anvil as it quickly descends to lower altitudes.
- ❖ Their shapes can vary greatly, from typical bulging shape to a more elongated tube dangling from the cloud above.

## 12.20. INFOCROP SIMULATION MODEL TO FORECAST HEATWAVE IMPACT ON FARM YIELD IN REAL TIME.

- ❖ Indian Agricultural Research Institute (IARI) conducted a first-of-its-kind experiment to quantify the impact of hot weather on crop yield in Punjab and Haryana by using InfoCrop Version 2.1.
- ❖ InfoCrop version 2.1 is **India’s only dynamic crop simulation model**, developed by IARI in 2015, that study the long-term impact of climate change and crop management practices on yield.
- ❖ The model has an **85 per cent accuracy rate**, which is on par with widely used dynamic models such as the **Decision Support System for Agrotechnology Transfer model, developed by the US**, and **Agriculture Production Systems SIMulator, developed by Australia**.
- ❖ It has life cycle data for almost all local varieties of **11 crops**: paddy, wheat, maize, sorghum, pearl millet, pigeon pea, chickpea, soybean, groundnut, potato and cotton.
- In InfoCrop, Parameters (updated at regular intervals) deal with aspects of
  1. Weather (precipitation, temperature etc.);
  2. Crop growth (grain characteristics, leaf growth etc.);
  3. Soil (water holding characteristics, pH levels etc.); and
  4. Pests and crop management (organic matter, fertiliser and irrigation).

### PRESENT SCENARIO

- ❖ Currently, the country does not have a system to forecast crop loss due to heatwaves or most other extreme weather conditions.
  - ✓ The Mahalanobis National Crop Forecast Centre, under the Union Ministry of Agriculture and Farmers Welfare, provides **pre-harvest forecasts** for 8 major crops at the national, state and district levels.
  - ✓ The agency also puts out forecasts accounting for drought events, but **not for other extreme weather conditions**.
  - ✓ The agency **forecasts with static crop models**, which cannot factor in real-time changes.

### 12.21. THWAITES GLACIER.

- ❖ Recent studies show that the Thwaites Glacier in Antarctica, nicknamed the Doomsday Glacier, is on the edge as warm water from the ocean has seeped into its weak spots.
  - ✓ Thwaites glacier is the **widest glacier on earth** and part of West Antarctica Ice Sheet.
- ❖ The glacier, which could lead to a significant rise in sea levels if it breaks off or melts, is facing one of the worse conditions due to melting caused by rising temperatures.
- ❖ Researchers have conducted **first-of-its-kind observations beneath the floating ice shelf** to reveal widespread cracks and crevasses where melting occurs more rapidly.
- ❖ Remotely operated **Icefin underwater robot** was used through a nearly 2,000-foot-deep borehole drilled in the ice and which captured the first close-up views of the critical point.
- ❖ The research paper published found that warmer water was making its way into crevasses and other openings known as terraces.
- ❖ **Glacier Terraces**- It is a long segment of a glacier. It is formed due to the stripping of soft strata from hard strata. In India, the glacial terraces are addressed as Karewas. They are found in Kashmir valley.
- ❖ **Glacial Crevasses**- These are deep cracks in glaciers. Their sizes may range from a few inches to more than 40 feet. They are formed due to shear stress.

#### IMPACT

- ❖ Thwaites glaciers could cause more than **half a meter of global sea level rise**, and could further destabilize the neighboring glaciers that have the potential to cause a further three-meter rise.
- ❖ The region in Antarctica is one of the continent's fastest changing and most unstable glaciers.

### 12.22. JAL JAN ABHIYAN.

- ❖ The Jal Jan Abhiyan, a joint nationwide campaign by Brahma Kumaris, an organisation which promotes spirituality, and the Union Jal Shakti Ministry was launched recently by PM.
- ❖ The main objective of the campaign is water conservation.
- ❖ During the campaign, the volunteers from the organization will conduct public awareness campaign on preserving water.
- ❖ The campaign is to run for eight months. They will focus on building new water bodies and also on preserving more than 5,000 water bodies.
- ❖ The **target** of the campaign is to reach at least **ten crore people** and organize **10,000 programs**.
- ❖ The Brahma Kumaris organization is deploying its Raja Yogis, the well-versed yoga practitioners. They will inspire people to prevent water wastage and pull them into the concept of a sustainable world.

#### BRAHMA KUMARIS

- ❖ The organization originated in Hyderabad, Sindh (today the place is in Pakistan).
- ❖ Present headquarters Mount Abu, Rajasthan.
- ❖ Founder of the organization was Lekhraj Kriplani (Om Baba).
- ❖ In 1983, it received "Consultative Status" from UNESCO.

### 12.23. OMORGUS KHANDESH: KERATIN BETTLE

- ❖ A new beetle species named Omorgus Khandesh has been discovered in a remote district of north Maharashtra. The beetle is important for forensic science as it helps detect the time of death of an animal or human.

- ❖ It is necrophagous (eats dead or decaying animal flesh) and is, therefore, also called a keratin beetle. The new species belongs to the Trogidae family. With the addition of this new species, now there are a total of 14 extant species of this family in India.
- ❖ The beetles of this group are sometimes called **hide beetles** as they tend to cover their body under the soil and hide. They are usually black or grey and encrusted in the dirt. Their bumpy appearance is distinct, with short, dense setae all over the body.

### 12.24. CYCLONE GABRIELLE

- ❖ New Zealand stepped up recovery efforts after Cyclone Gabrielle left at least five people dead and displaced 9,000.
- ❖ Cyclones are rapid inward air circulation around a low-pressure area. The air circulates in an anticlockwise direction in the Northern hemisphere and clockwise in the Southern hemisphere.
- ❖ There are two types of cyclones: Tropical cyclones and Extra-Tropical cyclones.

### 12.25. SAMAN BIRD SANCTUARY.

- ❖ A decline in migratory bird species has been reported from Saman Bird Sanctuary.
- ❖ Spread in an area of 500 hectare, the Saman Bird Sanctuary includes many smaller wetlands.
- ❖ It is one of the 467 IBA(Important Bird and Biodiversity Area) designated by Birdlife International having rich birdlife diversity.
- ❖ It is a Ramsar site, located in Mainpuri district of Uttar Pradesh.
- ❖ It is a seasonal oxbow lake on the Ganges floodplain and is heavily reliant on south-westerly monsoon.
- ❖ Sanctuary regularly provides refuge to over 50,000 waterbirds and is particularly important as a wintering site for many migrants.
- ❖ Vulnerable species including sarus crane (*Grus antigone*) and greater spotted eagle (*Aquila clanga*) are also found.

### 12.26. 12 CHEETAHS FROM SOUTH AFRICA ARRIVE IN INDIA.

- ❖ An IAF plane carried **seven male and five female cheetahs** continuing the Indian government's ambitious cheetah reintroduction programme.
- ❖ Cheetahs were made available by Phinda Game Reserve, Tswalu Kalahari Reserve, Waterberg Biosphere, Kwandwe Game Reserve and Mapesu Game Reserve and will join Cheetahs relocated to **Kuno National Park in Madhya Pradesh** from Namibia.
- ❖ Plan is to translocate a further 12 annually for next 8 to 10 years.
- ❖ Translocation is being made under '**Project Cheetah**'
  - ✓ It is world's first inter-continental large wild carnivore translocation project.
  - ✓ **Nodal Agency**- National Tiger Conservation Authority.

#### ABOUT CHEETAH

- ❖ Cheetah, world's fastest mammal, is a keystone species (organism that helps define an entire ecosystem) of dry forests, scrub forests, and savannahs.
- ❖ Protected under Appendix 1 of CITES.
- ❖ IUCN status: African Cheetah (Vulnerable); Asiatic Cheetah (Critically endangered).
- ❖ The country's last cheetah died in Koriya district of present-day Chhattisgarh in 1947 and the species was declared extinct in 1952.

### 12.27. UNDERWATER NOISE EMISSIONS.

- ❖ Underwater noise emissions by ships pose threat to Indian marine species, as per a study.
- ❖ The noise results in injuries and changes in their behavioural response besides a shift in their migration route much to their loss.
- ❖ The measurement of the ambient noise levels was carried out by deploying a hydrophone autonomous system around 30 nautical miles from the Goa coastline.

#### HIGHLIGHTS OF THE STUDY

- ❖ Increased UNE Levels: The sound pressure levels of UNE in the Indian waters are 102-115 decibels, relative to one microPascal (dB re 1 $\mu$  Pa). (Scientists have agreed to use 1 $\mu$ Pa as the reference pressure for underwater sound).
- ❖ The **East Coast level is slightly higher than that of the West**. There is an increase by a significant value of about 20 dB re 1 $\mu$ Pa.
- ❖ Factors: major source is continuous shipping movement.

#### IMPACT:

- ❖ The frequencies of ships' underwater self-noise and machinery vibration levels are overlapping the marine species' communication frequencies in the low-frequency range of less than 500 Hz.
- ❖ This is called **masking**, which may lead to a change in the migration route of the marine species to the shallow regions and also making it difficult for them to go back to the deeper water.
- ❖ However, the sound that radiates from ships on a long-term basis affects them and results in internal injuries, loss of hearing ability, change in behavioural responses, masking, and stress.
  - ✓ UNE is posing a threat to the life of mammals like Bottlenose Dolphin, Manatees, Pilot Whale, Seal, and Sperm Whale.
  - ✓ The main form of energy for multiple behavioural activities of marine mammals, which include mating, communal interaction, feeding, cluster cohesion and foraging, is based on sound.

#### ABOUT MARINE SOUND POLLUTION

- ❖ Marine sound pollution is the excessive or harmful sound into the ocean environment. It is caused by a variety of human activities, such as shipping, military sonar, oil and gas exploration, and recreational activities. It can have many negative impacts on marine life.

### 12.28. FIRST GLOBAL ASSESSMENT OF SOIL CARBON IN GRASSLANDS BY FAO RELEASED.

- ❖ Food and Agriculture Organisation recently released first Global assessment of Soil Carbon in Grasslands.
- ❖ It measured stocks of **Soil Organic Carbon (SOC)** in both semi-natural and managed grasslands.
  - ✓ SOC is carbon held within the soil that is measurable. It helps in improving soil biological, chemical, and physical properties, water-holding capacity, and structural stability.
  - ✓ SOC is a cost-effective nature-based solution to mitigate effects of climate change by reducing atmospheric carbon dioxide.
- ❖ It was funded by FAO LEAP Partnership, a multi-stakeholder initiative to improve environmental sustainability of livestock sector.
  - ✓ FAO LEAP is a **multi-stakeholder initiative** that seeks to improve the environmental sustainability of the livestock sector through harmonized methods, metrics, and data.
  - ✓ It leads a coordinated global initiative to accelerate the sustainable development of the livestock supply chain and to support coherent climate actions while contributing to the achievement of the 2030 Agenda for Sustainable Development and the Paris Agreement.

#### IMPORTANT FINDINGS

- ❖ Grasslands, contain approximately 20% of world's SOC, have suffered losses because of human activities such as intensive livestock grazing, agricultural activities etc.
- ❖ Most of world's grasslands have a positive carbon balance, meaning land is stable or well-maintained. However, negative carbon balance was found in East Asia, Central and South America, and Africa south of Equator.
- ❖ SOC's are not included in national climate plans due to lack of incentives for farmers to improve management practices and difficulty in accurately monitoring SOC stocks.
- ❖ Recommendations:
  - ✓ Improve geostatistical methods and data accuracy related to SOC,
  - ✓ Reversing grasslands loss by stimulating plant growth,
  - ✓ Capturing carbon in the soil, and
  - ✓ Protecting carbon in highly organic soils.
  - ✓ In livestock management, implementing rotational, planned or adaptive grazing measures for animals.

#### ABOUT GRASSLANDS

- ❖ These are open and continuous flat areas of grass found in all the continents except Antarctica.
- ❖ Two main kinds of grasslands: tropical and temperate.

- ❖ Examples -Prairies of North America, Pampas of South America, Veldt of South Africa, Steppes of Central Eurasia, and Downs in Australia.

### 12.29. SDG AGRIFOOD ACCELERATOR PROGRAMME LAUNCHED.

- ❖ The Programme has been launched by Food and Agriculture Organization (FAO) and SEED.
- ❖ SDG Agrifood Accelerator Programme is designed to help agrifood system start-ups develop their businesses while contributing to UN's SDGs.
- ❖ Programme acknowledges that all 17 SDGs are interconnected and addresses challenges across a broad range of goals, from no poverty and zero hunger to good health, gender equality and climate action.
- ❖ Operating across Africa and Asia, 12 SMEs who joined the Programme will be supported in three areas: financial readiness, innovation potential, and market reach.
- ❖ The kind of help they will receive includes assistance in the development of business, marketing or investment plans, how to approach potential financiers or on how to go digital.
- ❖ SEED is a global partnership for action on sustainable development and green economy.
  - ✓ It was founded by UN Environment Programme (UNEP), UN Development Programme (UNDP) and International Union for Conservation of Nature (IUCN) at the 2002 World Summit on Sustainable Development in Johannesburg.

### 12.30. VULTURES BRED AT PINJORE CENTRE TO BE FREED WITHIN 15 YEARS.

- ❖ Jatayu Conservation Breeding Centre (JCBC) has proposed to release Oriental white-backed Vultures in the wild in 2023-24.
- ❖ JCBC is a joint project of Haryana Forest Department and Bombay Natural History Society (BNHS).
- ❖ It was established in 2001 with UK Government Darwin Initiative for the Survival of Species' fund, to investigate the dramatic declines in the resident Gyps species of vultures.
- ❖ It houses three critically endangered species of Gyps Vultures, i.e. the Oriental white-backed, Long-billed and Slender-billed vultures.

### 12.31. HEAT DOME.

- ❖ Indian Meteorological Department has predicted that heat dome over northwest India is likely to recede from land and back off into Central Arabian Sea soon, making way for moisture-laden western disturbance and associated cloud cover with rain or snow in Western Himalayas and adjoining plains.
  - ✓ It has led to unusual heat in February.
- ❖ Heat dome is a high-pressure circulation in atmosphere which acts like a dome or cap, trapping heat at surface and favouring heatwave formation.
  - ✓ It occurs when hot ocean air is trapped over a large area.
- ❖ Typically, heat domes are tied to the pattern of jet stream (fast winds high in atmosphere that generally runs west to east).
  - ✓ Normally, jet stream has a wavelike pattern, meandering north and then south and then north again.
  - ✓ When these meanders in jet stream become bigger, they move slower and can become stationary and resulting into heat domes.
- ❖ Hot air typically rises into atmosphere, but dome's lid causes air to sink. As air sinks, it compresses and becomes warmer that causes temperature in dome to rise continually.
- ❖ Impacts of heat dome:
  - ✓ Affect seasonal agricultural products;
  - ✓ Increased risk of wildfire,
  - ✓ heat-related illnesses such as heat rash, heat stroke, heat exhaustion etc.

### 12.32. WHEAT VARIETIES.

- ❖ Indian Agricultural Research Institute (IARI) scientists have developed three climate-smart varieties of wheat.
- ❖ These varieties are characterised by "mild vernalisation requirement" i.e., need for a certain minimum period of low winter temperatures for initiation of flowering.
- ❖ Three varieties are: HDCSW-18 (officially notified in 2016), HD-3410 and HD-3385.

- ❖ HD-3410 (released in 2022), has higher yield potential (7.5 tonnes/hectare) with lower plant height (100-105 cm).
- ❖ HD-3385 variety looks most promising. With the same yields as HD-3410, plant height of just 95 cm and strong stems, it is least lodging-prone and most amenable for early sowing.
  - ✓ Lodging refers to permanent displacement of aboveground parts of a crop from its upright position.

#### ABOUT INDIAN AGRICULTURAL RESEARCH INSTITUTE (IARI)

- ❖ Indian Agricultural Research Institute (IARI), popularly known as Pusa Institute, began in 1905 at Pusa (Bihar) with the generous grant from an American philanthropist, Mr. Henry Phipps.
- ❖ Following a devastating earthquake in 1934, the institute was shifted to Delhi on 29th July 1936.
- ❖ Post-independence, the institute has been renamed as Indian Agricultural Research Institute (IARI).
- ❖ The green revolution bloomed from the fields of IARI with the development of famous wheat varieties that ensured mass production.

### 12.33. RHODODENDRONS.

- ❖ As per Botanical Survey of India (BSI), Darjeeling and Sikkim Himalayas are home to more than one-third of all types of rhododendrons found in India.
- ❖ Rhododendron, meaning rose tree in Greek, is a genus of flowering plants.
- ❖ It is native to temperate regions of Asia, North America, and Europe.
- ❖ It is considered an indicator species for climate change.
- ❖ **Habitat range:** Subtropical and temperate to subalpine and alpine ecosystems.
- ❖ **Health benefits:** Prevention and treatment of diseases associated with heart, dysentery, diarrhoea, etc

#### ABOUT BOTANICAL SURVEY OF INDIA (BSI)

- ❖ The East India Company (EIC) established the Botanical Survey of India (BSI) in 1890, during the pre-independence era.
- ❖ It is located in Kolkata, West Bengal.
- ❖ **Parent institution-** Ministry of Environment, Forestry, and Climate Change.
- ❖ It conducts surveys, research, and conservation of India's plant riches.
- ❖ It also gathers and manages gene banks of threatened and endangered plant species.

### 12.34. BOR THEKERA

- ❖ A medicinal plant commonly called 'Bor Thekera' in the Assamese language, traditionally forbidden for raw consumption, has been found to protect from heart diseases.
- ❖ *Garcinia pedunculata* popularly known as Bor Thekera in Assamese, is **an evergreen tree** related to the more familiar purple mangosteen (*Garcinia mangostana*).
- ❖ The tree is endemic to the south-eastern regions of Asia such as parts of Myanmar and north-eastern parts of India.
- ❖ Uses:
  - ✓ The sun-dried slices of the Bor Thekera are used for culinary and medicinal purposes and are known to have therapeutic properties like anti-inflammatory, anthelmintic, antibacterial, antifungal, antidiabetic, hypolipidemic, nephroprotective, and even neuroprotective activity.
  - ✓ Multiple studies have been reported that *G.pedunculata* is a rich source of antioxidants.
  - ✓ In Assam, such slices are much valued and used for preparing delicacies like "tenga diya masor jol" meaning Assamese sour fish curry.

### 12.35. ORANGUTAN.

Recently, four police personnel in Chennai were suspended for aiding orangutan smugglers.

#### ABOUT ORANGUTANS

- ❖ Orangutans are **great apes** native to the rainforests of Indonesia and Malaysia. They are now found only in parts of Borneo and Sumatra.
- ❖ **Habitat:** Orangutan means "man of the forest" in the Malay language. The most arboreal of the great apes, orangutans spend most of their time in trees.

- ❖ **Characteristics:** They have proportionally long arms and short legs, and have reddish-brown hair covering their bodies. Bornean and Sumatran orangutans differ a little in appearance and behavior. While both have shaggy reddish fur, Sumatran orangutans have longer facial hair.
- ❖ **Threats:** Human activities have caused severe declines in populations and ranges. Threats to wild orangutan populations include poaching (for bushmeat and retaliation for consuming crops), habitat destruction and deforestation (for palm oil cultivation and logging), and the illegal pet trade.
- ❖ **Declining population & IUCN Status:**
  - ✓ A century ago there were probably more than 230,000 orangutans in total, but
  - ✓ The Bornean orangutan is now estimated at about 104,700 based on updated geographic range categorized as **Endangered** and
  - ✓ The Sumatran with numbers around 7,500 is categorized as **Critically Endangered**.
  - ✓ **Tapanuli orangutan:** A third species of orangutan was announced in November, 2017. With no more than 800 individuals in existence, the Tapanuli orangutan is the most endangered of all great apes.

## 12.36. GREAT BACKYARD BIRD COUNT (GBBC) 2023.

- ❖ India was among 190 countries that participated in GBBC 2023 recently.
- ❖ It is an annual event that brings bird enthusiasts, students and nature enthusiasts together for counting birds they see around the places where they live, work or study.
- ❖ West Bengal reported the highest number of species (489 species) followed by Uttarakhand (426), Arunachal Pradesh (407), Assam (397) and Karnataka (371) during the Great Backyard Bird Count (GBBC) 2023. Tamil Nadu and Kerala took the eighth and ninth spots with 349 and 325 species.
- ❖ India's birds are thriving in diverse habitats from the city to the countryside. A remarkable increase in participation across the country helped India upload the second-highest number of checklists after the United States of America and the third-highest species of any country.

### ABOUT GBBC

- ❖ The GBBC was launched in 1998 by the Cornell Lab of Ornithology and National Audubon Society, and was the first online citizen-science project (also referred to as community science) to collect data on wild birds and to display results in near real time.
  - ✓ Bird Count India organises the GBBC in the country.
- ❖ In 2013, it became a global project after entering data into eBird, the world's largest biodiversity-related citizen science (community science) project.

### BIRD COUNT INDIA

- ❖ Bird Count India is an informal partnership of organisations and groups working together to increase collective knowledge about bird distributions and populations.
- ❖ It supports listing and monitoring of birds in India: from individuals maintaining their bird lists, to groups of students or birders monitoring local birds, to large India-wide projects to document the abundance and distribution of species.

## 13. INDEX AND REPORTS

### 13.1. GLOBAL QUALITY INFRASTRUCTURE INDEX (GQII) 2021.

- ❖ The Global Quality Index Infrastructure was released for 184 world economies based on the quality of their infrastructure.
  - ✓ GQII program is an initiative to research and disseminate data on Quality Infrastructure (QI).
  - ✓ It is supported by Physikalisch - Technische Bundesanstalt (PTB) and Federal Ministry for Economic Cooperation and Development (BMZ), Germany.
- ❖ Germany topped the list. It was followed by China, the USA.
- ❖ The rankings are calculated based on the standards, metrology and accreditation.
- ❖ India was ranked fifth in accreditation parameter. The overall good infrastructure quality of India is being maintained by the Quality Council of India.
  - ✓ The standardization ranking was at the 9th spot and the credit goes to BIS.
  - ✓ The metrology system was ranked 21st and NPL-CSIR takes the credit.

#### QUALITY COUNCIL OF INDIA (QCI)

- ❖ It was established in 1997 by DPIIT.
- ❖ The major boards of QCI are NABCB and NABL.
  - ✓ NABCB is National Accreditation Board for Certification Bodies.
  - ✓ NABL is National Accreditation Board for Testing and Calibration Laboratories.
- ❖ Significance The QCI is the backbone of India's international trade. The council receiving a good ranking at the international level is proof that India is gaining the trust of its international partners. QCI operates other national bodies such as NPL-CSIR, BIS, etc. They are all the custodians of the National Accreditation System

### 13.2. 'GLOBAL SEA-LEVEL RISE (SLR) AND IMPLICATIONS KEY FACTS AND FIGURES' REPORT.

- ❖ It has been released by World Meteorological Organisation (WMO).
- ❖ Report highlighted how global sea-level changes induced by climate change and melting of major ice masses will impact small island dwelling states, and densely populated low-lying urban areas.

#### KEY FINDINGS

- ❖ India, China, Bangladesh and Netherlands face highest threat of SLR globally.
  - ✓ Mumbai, Dhaka, London, New York among metros in line of sea-level rise threat.
- ❖ Global mean sea level increased by 0.20 metres from 1901 to 2018.
  - ✓ Sea levels rose by 4.5 millimeters a year on average between 2013 and 2022 — over three times higher than the rate at which they rose between 1901 and 1971.
  - ✓ The average yearly rise in sea levels was 1.3 mm a year between 1901 and 1971, which increased to 1.9 mm a year between 1971 and 2006, and 3.7 mm a year between 2006 and 2018.
- ❖ Almost 11% of global population (896 million people) lived within Low Elevation Coastal Zone in 2020, potentially increasing to beyond 1 billion people by 2050.

#### CONTRIBUTORS TO SLR FROM 1971-2018

- ❖ Thermal expansion contributed to 50% of sea level rise during 1971-2018, while ice loss from glaciers contributed to 22%, ice-sheet loss to 20% and changes in land-water storage 8%.
- ❖ The rate of ice-sheet loss increased by a factor of four between 1992-1999 and 2010-2019. Together, icesheet and glacier mass loss were the dominant contributors to global mean sea level rise during 2006-2018.

#### IMPACT

- ❖ Rising sea levels cause the erosion of coastal ecosystems, worsening the intensity of storm surges and flooding.
- ❖ It can also lead to the contamination of soil and groundwater with salt, further impacting food security.

#### ABOUT WORLD METEOROLOGICAL ORGANIZATION (WMO)

- ❖ It is an intergovernmental organization established by the ratification of the WMO Convention in 1950. It is a specialized agency of the United Nations.



- ❖ Headquarters- Geneva Switzerland
- ❖ Members-193 Member States and Territories including India.
- ❖ Its supreme body is the World Meteorological Congress.

### 13.3. GROSS DOMESTIC CLIMATE RISK.

- ❖ It was released by the Cross Dependency Initiative (XDI), a global organisation specialising in climate risk analysis for regions, banks and companies.
- ❖ The “world-first” index calculated the ‘physical climate risk’ to built environments across 2,600 States and provinces globally in 2050 due to extreme weather events.

#### FINDINGS

- ❖ India, China and U.S are home to 80% of most vulnerable cities and centres of economic activity.
- ❖ Jiangsu and Shandong of China topped it.
- ❖ Nine out of 50 regions in the world facing high climate risk to a fragile physical infrastructure fall in India.
  - ✓ Bihar (22nd spot), Uttar Pradesh (25th), Assam (28th), Rajasthan (32nd), Tamil Nadu (36th), Maharashtra (38th), Gujarat (48th), Punjab (50th) and Kerala (52nd) are among the most vulnerable in the country,
  - ✓ It also identified the economic capital Mumbai to be at notable risk as well.

### 13.4. CLIMATE PERFORMANCE INDEX.

- ❖ Observer Research Foundation has released a CPI to evaluate performance of G20 countries in climate change mitigation.
- ❖ On CPI, India ranks first among all G20 members in terms of overall climate performance.
- ❖ India’s rank is attributed to factors like significantly low per capita contributions to emissions, very limited share in legacy emissions relative to its population needs etc.

#### OTHER INFORMATION

- ❖ Climate Change Performance Index (CCPI) is published by Germanwatch, New Climate Institute and Climate Action Network.

### 13.5. INTERNATIONAL IP INDEX.

- ❖ India ranked 42<sup>nd</sup> on International IP Index released by US Chambers of Commerce.
- ❖ U.S topped the index.
- ❖ Annual Index evaluates protection of Intellectual Property (IP) rights in 55 of world’s leading economies, together representing around 90% of global GDP.
- ❖ Key Findings for India
  - ✓ Improved enforcement against copyright-infringing content and provides a best-in-class framework to promote better understanding and utilisation of IP assets.
  - ✓ Concerns: Dissolution of IP Appellate Board (2021), under-resourced and overstretched judiciary, limited framework for the protection of biopharmaceutical IP rights etc.

## 14. DEFENCE

### 14.1. INDIAN ARMY LAUNCHES 'OPERATION SADBHAVANA' FOR DEVELOPMENT OF LADAKH.

- ❖ As part of 'Operation SADBHAVANA', Indian Army is undertaking multiple welfare activities such as **Army Goodwill Schools, Infra-development projects, education tours etc.** for the children living in remote areas of UT of Ladakh.
- ❖ The focus of Operation is to improve the overall core social indices of the region by improving Education, Women & Youth Empowerment, and Health care through implementation of community/infrastructure development projects.
- ❖ The Indian Army is presently running 7 Army Goodwill Schools under 'Operation SADBHAVANA' in Ladakh Region. **More than 2,200 Students are currently studying in these schools.**
- ❖ Under this initiative (in FY 22-23), medical camps, veterinary camps, provision of medical equipment, upgradation of medical infrastructure and staffing of Medical Aid Centres have been provided at various remote locations in Ladakh. Women in remote areas of Ladakh are also being inducted in Vocational Training Centres, Women Empowerment Centres and Computer Centres organised and funded through SADBHAVNA.
- ❖ Operation SADBHAVANA (Goodwill) is a unique humane initiative undertaken by Indian Army and formalised in 1990s in the erstwhile State of J&K **to address aspirations of people affected by scourge of terrorism.**

### 14.2. INDIAN FORCES SEEK ARMED PREDATOR DRONES FROM US.

- ❖ The Indian armed forces are seeking 18armed Predator MQ 9A drones from the US.
- ❖ The Predator armed drones can fly up to 50,000 feet for up to 24 hours and carry an option of Hellfire air-to-ground missiles for high-value targets or air-to-air missiles to bring down aerial enemy targets.
- ❖ Of these 18 drones from the US, 6 drones will be provided to each of the three services.
- ❖ The Indian Navy already has two General Atomics-manufactured Sea Guardian (MQ 9B) drones for maritime domain awareness on lease from the US. Currently, the navy is the leading service in armed drone acquisition and deployment.
- ❖ Also the National Technical Research Organisation (NTRO) (an electronic and spatial intelligence organisation) will also soon acquire 8 Indian-manufactured Medium Altitude Long Endurance (MALE) drones for border surveillance. The MALE drones have been built with the help of Israel in a joint venture in Gujarat.
- ❖ Both China and Pakistan have the **Wing Loong II armed drones** in their arsenals, therefore, the acquisition of these surveillance and predator drones is significant from India's security perspective.

### 14.3. SURFACE-TO-AIR MISSILE- DRDO WORKING TO FIX A FEW GLITCHES.

- ❖ The indigenous Quick Reaction Surface to Air Missile (QRSAM) being developed by the Defence Research and Development Organisation (DRDO) is set to be tested again in April with some changes suggested by the Army.

#### About Quick Reaction Surface to Air Missile System (QRSAM)

- ❖ It is a Short Range Surface to Air Missile system designed to protect moving armoured columns from aerial attacks.
- ❖ The entire weapon system is configured on highly mobile platforms and is capable of providing air defence on the move.
- ❖ It is being inducted into the Indian Army (IA).
- ❖ The uniqueness of the QRSAM weapon system is that it can operate on the move with search and track capability & fire on short halt. This has been proven during the mobility trials conducted earlier.

### 14.4. EXERCISE TARKASH BETWEEN USA AND INDIA.

- ❖ The exercise named TARKASH by the National Security Guard (NSG) and US Special Operations Forces (SOF) is underway in Chennai.
  - ✓ This is the **sixth edition** of the exercise.
- ❖ With chemical and biological warfare being recognised as a coming threat to the world, an ongoing Indo-US joint exercise has **for the first time included a Chemical, Biological, Radiological and Nuclear (CBRN) terror response** in its drill.
- ❖ The objective of the joint exercise was to rapidly neutralise the terrorists, rescue the hostages safely and deactivate the chemical weapons being carried by the terrorists.

- ✓ **CBRN weapons**, which are also classified as Weapons of Mass Destruction (WMDs), have been used by States and terror elements in the past. The most recent use of CBRN in the form of a sarin gas attack was witnessed in Syria in 2017.
- ❖ Bilateral and regional exercises include: **Yudh Abhyas** (Army); **Vajra Prahar** (Special Forces); **U.S.-India-Japan Malabar Naval Exercise**; RIMPAC; Red Flag.
  - ✓ Bilateral military exercises and defence exchanges are important aspects of deepening military-to-military cooperation.
- ❖ In addition to a number of service-to-service exercises, in 2019 a tri-services exercise— **Tiger Triumph**— was conducted in November 2019.

#### 14.5. HAL TO PROVIDE MRO SERVICES FOR MQ-9B SEA GUARDIAN.

- ❖ Hindustan Aeronautics Ltd (HAL) will provide Maintenance, Repair and Overhaul (MRO) services for engines of US's MQ-9B Remotely Piloted Aircraft System as India is in discussions to buy 30 MQ-9B drones to enhance its surveillance capabilities along the China border and the Indian Ocean region.
- ❖ In another development, Germany based HENSOLDT and HAL announced a collaboration agreement covering design/IPR Transfer for design and manufacturing of Obstacle Avoidance System (OAS) for Indian helicopters.

#### MQ-9B SEA GUARDIAN

- ❖ The MQ-9B Sea Guardian has changed the game in maritime domain awareness. It's the first unmanned aerial system of its kind that can search the ocean surface and the depths in support of naval intelligence, surveillance and reconnaissance.
- ❖ It is designed to fly over the horizon via SATCOM for up to 30 hours (depending on configuration) in all types of weather.
- ❖ General Atomics Aeronautical Systems, Inc (GA-ASI) of US is the manufacturer of the MQ-9Bs.
- ❖ Indian Navy operates two MQ-9B Sea Guardians taken on lease in 2020.

#### 14.6. DHARMA GUARDIAN.

- ❖ The 4th edition of the joint military exercise, Exercise Dharma Guardian, between India and Japan is being conducted in Japan from 17th February to 2nd March 2023.
- ❖ The exercise is an annual training event with Japan and is crucial and significant in terms of security challenges faced by both nations in the backdrop of the current global situation.
- ❖ The exercise will further enhance the level of defence co-operation between The Indian Army and Japanese Ground Self Defence Forces, furthering the bilateral relations between the two nations.
- ❖ Other Military Exercises between India and Japan are
  - ✓ JIMEX (naval),
  - ✓ SHINYUU Maitri (Air Force) and
  - ✓ Exercise Veer Guardian.

#### 14.7. AERO INDIA 2023

- ❖ Aero India 2023 was organised at Air Force Station, Yelahanka, Bengaluru recently. The event was the biggest-ever till date and witnessed the participation of 98 countries, according to the Ministry of Defence.
- ❖ This year's **theme** is '**The runway to a billion opportunities**' and the focus is on showcasing India's growth in aerospace and defense capabilities.
- ❖ Events included Defence Ministers' Conclave, a CEOs Round Table, Manthan start-up event, and Bandhan ceremony (for forging and renewing partnerships between business entities), Air show (open to the public) with aerial displays being the highlight.

#### 14.8. IAF INDIGENOUS VAYULINK PLATFORM.

- ❖ The Indian Air Force has developed a solution for its fighter pilots to deal with bad weather. The innovative solution developed is a new data link communication called VAYULINK.
- ❖ It will provide uninterrupted communication even during bad weather. Above all the communication link is jammer-proof.

- ❖ It uses IRNSS to send and receive signals.
  - ✓ IRNSS is a satellite constellation of ISRO. It is also called NAVIC.
  - ✓ However, the unique feature of the communication link is that its satellite usage is rare. It means the system uses the satellite only when the signals are low.
- ❖ VAYULINK will aid in preventing Fratricide- meaning, during air force fire operations, it prevents IAF aircraft from shooting down own aircrafts or own ground stations.
  - ✓ When VAYULINK is installed in spacecraft, it provides proximity to other aircraft. With encrypted data about IAF flights, VAYULINK identifies it separately. Also, our own ground stations shall be identified easily with VAYULINK.

#### 14.9. DUSTLIK EXERCISE.

- ❖ The fourth iteration of the biennial training exercise DUSTLIK (2023) will be held in Pithoragarh, Uttarakhand, from February 20 to March 5, 2023, as part of a military-to-military exchange programme between the Indian Army and the Uzbekistan Army.

#### 14.10. NEW START.

- ❖ Russia is suspending its participation in New START, last remaining major military agreement with US.
- ❖ New START is a treaty between US and Russia for reduction and Limitation of Strategic Offensive Arms.
- ❖ It entered into force in 2011, and placed verifiable limits on intercontinental-range nuclear weapons.
- ❖ START-I was signed between US and erstwhile USSR in 1991.
  - ✓ It was expired in 2009.

#### 14.11. LONG RANGE ARTILLERY WEAPON SYSTEM.

- ❖ Bharat Electronics Ltd (BEL) has signed an MoU with Israel Aerospace Industries (IAI) for domestic manufacture and supply of its LORA Weapon System (LORA) for Indian Tri-services.
- ❖ LORA is a short-range, road-mobile, ground and sea-launched solid fuelled ballistic missile developed and operated by Israel.
- ❖ LORA system provides ballistic assault capabilities for multiple ranges (maximum range 280km) with a precision level of 10 meters CEP (Circular Error Probability).
- ❖ It uses Inertial Navigation System/Global Positioning System and TV for terminal guidance, with possible in-flight maneuvering capability.
- ❖ It can carry a warhead of upto 600 kg.

#### 14.12. LCA TEJAS MK-2.

- ❖ According to a senior official from the Aeronautical Development Agency (ADA), the Indigenous Light Combat Aircraft (LCA) Tejas Mk2 will be integrated with heavy standoff weapons like SCALP, an air-to-ground, long-range deep strike missile.
  - ✓ The LCA Mk2 will also be able to integrate unique weapons from various countries like France, Russia etc.

#### ABOUT LCA TEJAS MK2

- ❖ The Indigenous LCA Tejas Mk2 is a fighter aircraft developed in India that can carry **eight Beyond-Visual-Range (BVR)** missiles simultaneously, along with integrating all native weapons and advanced weapons from other countries.
- ❖ The LCA Mk2 is an upgraded version of the LCA Tejas Mk1, which has improved range and mission endurance.
  - ✓ The mission endurance for fighting a war was 57 minutes for LCA Tejas Mk1, but it is 120 minutes for LCA Tejas Mk2.
- ❖ It will be pitched as a replacement for the Jaguars, MiG-29s, and Mirage 2000s.
- ❖ LCA Mk2 will have a weapon carrying capacity of 6.5 tonnes.
- ❖ The General Electric GE-414 engine will power the LCA Mk2.
- ❖ The LCA programme was started by the Government of India in 1984 when it established the Aeronautical Development Agency (ADA) to manage the LCA programme.

#### OTHER VARIANTS OF TEJAS:

- ❖ **Tejas Trainer:** 2-seater operational conversion trainer for training air force pilots.
- ❖ **LCA Navy:** Twin- and single-seat carrier-capable for the Indian Navy.

## 15. SPACE

### 15.1. SUCCESSFUL FLIGHT OF SMALL SATELLITE LAUNCH VEHICLE (SSLV) BY ISRO.

- ❖ Second developmental flight of SSW— SSLV-D2 — placed three satellites in its precise orbit. Earlier, First test flight of SSLV had marginally missed to place the satellites.
- ❖ SSLV-D2 carried:
  1. EOS-07, an Earth Observation Satellite by ISRO.
  2. Janus-1, a technology demonstrator satellite built by United States-based Antaris and its Indian partners.
  3. AzaadiSAT-2 satellite, a combined effort of about 750 girl students across India guided by Space Kidz India.
- ❖ The satellite carried the G20 logo to space and the NCC song to celebrate 75 years of the organisation.

#### ABOUT SSLV

- ❖ It is a **3 stage Launch Vehicle** configured with **three Solid Propulsion Stages** and liquid propulsion based Velocity Trimming Module as a terminal stage.
- ❖ It is 2 m in diameter and 34m in length with a lift off weight of 120 tonnes.
- ❖ It is capable of launching Mini, Micro, or Nanosatellites (10 to 500 kg mass) to a 500 km orbit
- ❖ Like Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch vehicle (GSLV), SSLV can accommodate multiple satellites, albeit smaller ones.
- ❖ Unlike PSLV and GSLV, SSLV can be assembled both vertically and horizontally.
- ❖ Other features: Low cost, low turn-around time, launch on demand feasibility, minimal launch infrastructure requirements etc.
- ❖ NewSpace India Limited (NSIL), under Department of Space and commercial arm of ISRO, is the **sole nodal agency** responsible for providing end-to-end SSLV Launch services for customer satellites.

### 15.2. MYSTERIOUS RING ON A DWARF PLANET.

- ❖ In a new study, scientists discovered that the dwarf planet Quaoar near Pluto has with rings at unusual distance.
- ❖ The rings of **Quaoar** (named after a god of creation in Native American mythology) are positioned at a distance of over seven **planetary radii** (distance between a planet's centre and its surface) which is much further away from other planets that possess rings.
- ❖ Planetary rings possess small chunks of ice and other materials that orbit a larger object.
- ❖ Only Saturn, Jupiter, Uranus and Neptune, including two other minor planets, Chariklo and Haumea, are known to possess rings.

#### ABOUT QUAOAR

- ❖ Discovered in 2002, Quaoar is currently defined as a minor planet and is proposed as a dwarf planet.
- ❖ Its diameter of about 700 miles (1,110 km) is about a third that of Earth's moon and half that of the dwarf planet Pluto. It has a small moon called Weywot, Quaoar's son in mythology, with a diameter of 105 miles (170 km) orbiting beyond the ring.
- ❖ Inhabiting a distant region called the **Kuiper belt** populated by various icy bodies, Quaoar orbits about 43 times further than Earth's distance to the sun. In comparison, Neptune, the outermost planet, orbits about 30 times further than Earth's distance from the sun, and Pluto about 39 times further.

### 15.3. DIYODAR METEORITE.

- ❖ Scientists from Physical Research Laboratory (PRL), Ahmedabad, are claiming that the meteorite that crashed in two villages in Banaskantha, Gujarat on August 17, 2022, has been identified as an **aubrite**.
- ❖ This is only the second recorded crash of an aubrite. The meteorite has been named the Diyodar meteorite after the taluka in which the villages are located.
  - ✓ The last crash of an aubrite before this was in Basti, Uttar Pradesh on December 2, 1852.

- ❖ **Aubrites**, a type of meteorite, are **coarse-grained igneous** rocks formed in **oxygen-poor conditions**; containing a variety of exotic minerals that are not found on Earth.
  - ✓ E.g. mineral heideite was first described in Basti meteorite.
- ❖ Around 90% of Diyodar meteorite was composed of orthopyroxene.
- ❖ Pyroxenes are silicates consisting of single chains of silica tetrahedra (SiO<sub>4</sub>). Orthopyroxenes are pyroxenes with a certain structure.
  - ✓ Pyroxenes such as diopside and jadeite have been used as gems.

#### 15.4. ALMA- ATACAMA LARGE MILLIMETER/MILLIMETER ARRAY.

- ❖ A research team from Italy has detected an elusive black galaxy, dubbed 'invisible galaxy' using ALMA.
- ❖ The Atacama Large Millimeter/submillimeter Array (ALMA) is an astronomical interferometer of 66 radio telescopes in the Atacama Desert of **northern Chile**, which observe electromagnetic radiation at millimeter and submillimeter wavelengths.
- ❖ It studies light from some of the coldest objects in the Universe.
- ❖ This light has wavelengths of around a millimetre, **between infrared light and radio waves**.
  - ✓ Light at these wavelengths comes from some of the earliest and most distant galaxies in the Universe.
- ❖ ALMA is an international collaboration including teams from Europe, Japan, US, Canada, Chile etc.

#### 15.5. ISRO ANNOUNCES UNIQUE DISCOVERY ABOUT ORIGIN OF VOLCANIC ROCKS ON MOON.

- ❖ Scientists from Physical Research Laboratory (PRL), Ahmedabad (India), US and Japan have found a unique group of ancient lunar basaltic meteorites with very low abundance of KREEP.
  - ✓ This suggests that meteorites studied have come from a region different from PKT (Procellarum KREEP Terrane).
  - ✓ **KREEP** is acronym for a place that has deposits of **potassium (K), rare earth elements (REE) and phosphorus (P)**.
  - ✓ Two of the samples were those that were found on Earth— first in 1988 in Antarctica, and another in 1999 in South Africa's Kalahari Desert— while the third was collected by the Soviet Union's Luna-24 mission in 1976.
- ❖ Study shows that these basalts are result of low-pressure melting in the Moon whereas basalts in PKT regions are a result of localized radioactive melting.
  - ✓ Further, it shows that these basalts originated from a cool, shallow, and compositionally distinct part of lunar interior.
  - ✓ PKT regions are rich in radioactive elements that provided heat to melt rocks resulting in KREEP rich basalts.
- ❖ Mare regions of Moon which is on near side of Moon consists mainly of basalt rocks.
  - ✓ Near side of moon (always visible from Earth) is divided into light areas called **Lunar Highlands** and darker areas called **Mare**.

#### 15.6. GEOMAGNETIC STORM.

- ❖ Solar Wind recently passed through a gap which occurred due to a crack in Earth's magnetic field sparking a G1-class geomagnetic storm (GMS).
- ❖ Crack occurred due to South-pointing magnetic fields weakening Earth's defenses against solar wind. GMS is a disturbance in earth's magnetosphere, which is the area around planet controlled by its magnetic field.
- ❖ Earth's magnetosphere protects its inhabitants from most of the particles emitted by sun.
- ❖ It is caused by massive exchange of energy from solar wind into space environment surrounding the Earth.
- ❖ GMS are categorised between G1 and G5, the latter being the strongest.
  - ✓ If the Earth is hit with a G5-class solar storm, it can not only damage satellites and disrupt wireless communications such as internet services, mobile network and GPS, it can also cause power grid failures and even disrupt electronics such as heart pacemakers in patients.
  - ✓ The Sun entered solar cycle 25 in 2019 and it is expected that it will hit its peak in July 2025. And this is the main reason why the Sun has suddenly become so violent.
- ❖ **Effect of GMS**
  - ✓ Formation of bright red auroras.
  - ✓ Geomagnetic storms are also the reason behind stunning streaks of green light across the sky known as Northern Lights or Aurora Borealis.

- ✓ Disrupt navigation systems such as Global Navigation Satellite System (GNSS) and create harmful geomagnetic induced currents (GICs) in power grid and pipelines.
- ✓ Damage satellite electronics and expose astronauts and high-altitude pilots to increased levels of radiation.

## 16. SCIENCE AND TECHNOLOGY

### 16.1. INDIA HAS 111 PAYLOADS, 105 SPACE DEBRIS OBJECTS IN ORBIT: GOVERNMENT

- ❖ India has 111 payloads and 105 space debris objects orbiting the earth as tracked and catalogued by USSPACECOM
  - ✓ U.S. Space Command (USSPACECOM) is one of the unified commands of the Department of Defence of the US government.
- ❖ Space junk or debris consist of spent rocket stages, dead satellites, fragments of space objects and debris resulting from Anti-Satellite Weapons (ASAT). Hurling at an average speed of 27,000 kmph in Low Earth Orbit (LEO), these objects pose a very real threat of collisions as studied under the **Kessler Syndrome**.
  - ✓ The Kessler Syndrome is a phenomenon in which the density of objects in the Low Earth Orbit grows so high that collisions between two objects could cause a massive cascade.

#### Space debris safety measures by Indian Space Research Organization (ISRO):

- ❖ Indian Space Research Organisation (ISRO) has carried out 21 collision avoidance manoeuvres of Indian Operational Space assets in 2022 to avoid collision threats from other space objects. Research and studies on the potential and emerging threats from space debris are carried out by ISRO and academia since the early 1990s.
- ❖ In 2022, **ISRO System for Safe and Sustainable Operations Management (IS4OM)** has been established towards more focused efforts to continually monitor the objects posing collision threats, improve the prediction of the evolution of space debris environment and concerted activities to mitigate the risk posed by space debris.
- ❖ ISRO is deploying new radars and optical telescopes under the Network for Space Objects Tracking and Analysis (NETRA) project.

#### ABOUT: 'PROJECT NETRA'

- ❖ It is an **early warning system in space** to detect debris and other hazards to Indian satellites. It will give India its own capability in **Space Situational Awareness (SSA)** like the other space powers.
- ❖ **Modus Operandi:** Under NETRA, the ISRO plans to put up many observational facilities: **connected radars, telescopes, data processing units and a control centre**.

#### BENEFITS:

- ❖ NETRA can spot, track and catalogue objects as **small as 10 cm, up to a range of 3,400 km and equal to a space orbit of around 2,000 km**.
- ❖ The NETRA effort would **make India a part of international efforts** towards tracking, warning about and mitigating space debris.
- ❖ More importantly, the SSA also has a **military quotient** to it and adds a new ring to the country's overall security, **against attacks from air, space or sea**.
- ❖ This is a vital requirement for **protecting our space assets and a force multiplier**.
- ❖ **Global Initiative: Clearspace-1 (of European Space Agency)**, which is scheduled to launch in 2025, will be the first space mission to eliminate debris from orbit.

### 16.2. 'BENGALURU OUTSKIRTS HAVE HIGH LEVELS OF RADIOACTIVE RADON IN GROUNDWATER': IISc

- ❖ Indian Institute of Science (IISc) researchers have found hazardous radioactive radon to be present in air and water in the outskirts of Bengaluru.
- ❖ Radon is found to be 50 to 100 times the permissible limit of 11.1 Bq per litre as per initial studies by the researchers.
- ❖ This radon emanates from radioactive granites. Radon when ingested over an extended period can increase the risk of lung cancer.

#### ABOUT RADON

- ❖ Radon is an odorless, inert, invisible, radioactive gas and naturally released from rocks, soil and water.
- ❖ Radon derives naturally from uranium through radioactive transformation, as it undergoes radium decay before it is transformed into a chemically reactive atom.

- ❖ Presence of radon in air and water leads to damage of lung tissues, threatening cancer of the lungs while presence of uranium affects the urinary tract, leading to kidney cancer etc.

### 16.3. ISRO-NASA BUILT NISAR SATELLITE READY TO BE SHIPPED TO INDIA FOR LAUNCH.

- ❖ An earth-observation satellite jointly developed by NASA and ISRO that will help study Earth's land and ice surfaces in greater detail is all set to be shipped to India later this month for a possible launch in September.
- ❖ ISRO and NASA joined hands in 2014 to build the 2,800 kg satellite. In March 2021, ISRO sent its S-Band SAR payload developed in India to NASA for integration with the L-Band payload built by JPL.
- ❖ NISAR will provide critical information on Earth's crust, ice sheets, and ecosystems.
- ❖ NISAR spacecraft will be integrated into the satellite bus at the U R Rao Satellite Centre for launch within the next year.
- ❖ NISAR will gather radar data with a drum-shaped reflector antenna almost 12 meters in diameter. It will use a signal-processing technique called interferometric synthetic aperture radar, or InSAR, to observe changes in Earth's land and ice surfaces down to fractions of an inch.
- ❖ The satellite will help researchers detect slow-moving variations of a land surface that can precede earthquakes, landslides, and volcanic eruptions. Data about such movements could help communities prepare for natural hazards such as the Joshimath land subsidence.
- ❖ Measurements of melting sea ice and ice sheets will improve understanding of the pace and impacts of climate change, including sea level rise.
- ❖ Over the course of its three-year prime mission, the satellite will observe nearly the entire planet every 12 days, making observations day and night, in all weather conditions.

### 16.4. SCIENTISTS USE OUTER SPACE PARTICLES TO EXAMINE THE FORTRESS WALL OF XI'AN CITY: WHAT ARE MUONS AND HOW ARE THEY USED TO ANALYSE LARGE STRUCTURES ?

- ❖ Scientists are using outer space particles called muons to examine the fortress wall of Xi'an city, an ancient city in China.
- ❖ They used a muon detector, called CORMIS (Cosmic Ray Muon Imaging System), to examine the wall of Xi'an city.

#### WHAT ARE MUONS?

- ❖ Muons are subatomic particles raining from space. They are created when the particles in Earth's atmosphere collide with cosmic rays — clusters of high-energy particles that move through space at just below the speed of light.
  - ✓ Atom is the smallest unit of matter and is made up of smaller units known as subatomic particles i.e. protons, neutrons and electrons.

#### MUONS VS ELECTRONS

- ❖ Muons are similar to electrons but weigh more than 207 times as much, equivalent to the difference between an adult person and a small elephant. Therefore, they are sometimes called "fat electrons".
- ❖ Muons are so heavy, they can travel through hundreds of metres of rock or other matter in comparison, electrons can penetrate through only a few centimetres.
- ❖ Muons exist for only 2.2 microseconds before they decay into an electron and two kinds of neutrinos.

#### MUOGRAPHY

- ❖ Muography (or muon radiography) is a technique that exploits the penetration capability of muons. The measurement of their absorption in matter allows the imaging of the inner structure of large bodies.
- ❖ Muography is conceptually similar to X-ray but capable of scanning much larger and wider structures, owing to the penetration power of muons.
- ❖ As these high-energy particles are naturally produced and ubiquitous, all one needs to do is place a muon detector underneath, within or near the object of interest.

#### APPLICATIONS

- ❖ **Archaeology**
- ❖ **Detecting Volcanic Eruptions**
- ❖ **Nuclear Plants**



- ❖ **Application in various studies:** Muons applications in studies of superconductors, molecular systems and chemical reactions, novel battery materials and a variety of organic systems.

### 16.5. A NEW KIND OF ICE: 'AMORPHOUS' SOLID, WATER 'FROZEN IN TIME'

- ❖ Scientists have created a new type of ice, called medium-density amorphous ice, that matches the density and structure of water.
- ❖ The ice is called medium-density amorphous ice. The team that created it, led by Alexander Rosu-Finsen at University College London (UCL), shook regular ice in a small container with centimetre-wide stainless-steel balls at temperatures of  $(-)$  200 °C to produce the variant, which has never been seen before. **The ice appeared as a white granular powder that stuck to the metal balls.**
- ❖ Amorphous ice consists of water molecules arranged in a disordered state, with no large-scale regularity to their orientations or positions.
  - ✓ This kind of ice is most often found in space, comets, interstellar clouds etc.
- ❖ Normally, when water freezes, it crystallizes and its molecules are arranged into the familiar hexagonal, solid structure that we call ice. Ice is less dense than its liquid form — an unusual property for a crystal.
- ❖ Depending on conditions such as pressure and the speed of freezing, water can also solidify in any of two dozen other regular arrangements.
  - ✓ Amorphous ice is different: it has no such order.
- ❖ **Significance-** Helps in studying water's mysterious properties like Ice is less dense than its liquid form - an unusual property for a crystal.

### 16.6. ASHOK LEYLAND AND RELIANCE UNVEIL HEAVY-DUTY TRUCK WITH HYDROGEN ICE TECHNOLOGY.

- ❖ India's First Hydrogen Internal Combustion Engine (H2-ICE) powered truck was developed by Reliance in partnership with Ashok Leyland. The H2-ICE truck is the first of its kind in India to be powered by hydrogen. The truck emits zero carbon. It is completely clean.
- ❖ To harness energy from hydrogen, there are two technologies: hydrogen fuel cell electric vehicles (FCEVs) and hydrogen internal combustion engines (H2ICE).
- ❖ FCEVs generate electricity from hydrogen in a device known as a fuel cell that is used to power the electric motor, whereas H2ICE burn hydrogen in an internal combustion engine.

#### RECENT TECHNOLOGY TRENDS

- ❖ Most of these OEMs are modifying their existing conventional spark-ignition engines to develop H2ICEs.
- ❖ This is because a four-stroke H2ICE operates on the same cycle as regular natural gas engine and shares most of the components.
- ❖ H2ICE, however, requires minimum changes to the fuel injection and ignition systems along with different controls to handle high pressure hydrogen fuel and the corresponding light changes to the cylinder head.
- ❖ With higher part-sharing and a known technical arena, R&D costs required to develop H2ICE from a base spark-ignition engine are much lower than the cost of FCEV development.
- ❖ Also, with these engines being manufactured in the same production facilities and following the same manufacturing processes as conventional fossil-fuel ICE, with limited changes, economies of scale could be achieved faster. Moreover, the existing and established ICE supply chain can be leveraged efficiently.

#### CHALLENGES

- ❖ An area where additional investment would be needed is that H2ICE require a storage tank similar to FCEVs.

#### FCEV

- ❖ In comparison to H2ICE, fuel cell technology is very cost-intensive.
- ❖ Operationally, it requires pure hydrogen and a high specification compressor to supply compressed air.
- ❖ Intricate designs of critical components such as bipolar plates, membranes, etc, add to the cost.
- ❖ Also, new development and testing methods are required to validate the technology.

#### A PROMISING FUTURE

- ❖ H2ICE will require minimum incremental changes to the conventional powertrain and vehicle architecture, which makes it a logical option, especially for cost-conscious markets such as India, Southeast Asia, Africa, etc.
- ❖ It can also potentially open up new opportunities such as retrofitting of the current on-road ICE commercial vehicle fleet, long distance intercity buses, etc.
- ❖ The fuel cell technology is more expensive, but both technologies (fuel cell and H2ICE) share the same infrastructure. Therefore, development of any one technology will consequently help the development of the other. Overall, H2ICE offers an immediately viable powertrain option for decarbonisation in the medium- and heavy-duty vehicle application in India.
- ❖ It can be a bridging technology to remain cost-competitive till the fuel cell technology is commercialised while propelling the development of the hydrogen infrastructure.

## 16.7. GOOGLE INTRODUCES CHATGPT COMPETITOR BARD.

- ❖ Google has announced Bard, a ChatGPT competitor that uses Google's own language model.

### ABOUT:

- ❖ Bard is based on the **Language Model for Dialogue Application (LaMDA)**, Google's own conversational AI chatbot.
- ❖ It will give in-depth, conversational and essay-style answers just like ChatGPT does right now.
  - ✓ However, the model is currently a "lightweight" version of LaMDA, and the one being "requires significantly less computing power, enabling it to scale to more users.

### FEATURES:

- ❖ It is built on Transformer technology, which is also the backbone of ChatGPT and other AI bots.
- ❖ Transformer technology was pioneered by Google and made open source in 2017.
- ❖ **Transformer technology** is a Neural Network Architecture, which is capable of making predictions based on inputs and is primarily used in natural language processing and computer vision technology.
- ❖ The architecture determines how the network processes information and influences its accuracy and efficiency in solving a particular problem. Common architectures include feedforward networks, recurrent networks, and convolutional neural networks.

### DIFFERENCE BETWEEN CHATGPT AND BARD

- ❖ ChatGPT has impressed with its ability to respond to complex queries — though with varying degrees of accuracy — but its biggest shortcoming perhaps is that it cannot access real-time information from the Internet.
- ❖ But Microsoft just unveiled a new version of Bing that's powered by ChatGPT which is a significant improvement of the version of ChatGPT.
- ❖ ChatGPT's language model was trained on a vast dataset to generate text based on the input, and the dataset, at the moment, only includes information until 2021.
- ❖ Whereas, for questions where there might not be a clear-cut answer, Bard will synthesise a response that reflects differing opinions.

### CONCERNS REGARDING AI-BASED GENERATIVE CHATBOTS

- ❖ The text generation software from Google and OpenAI, can be extremely prone to inaccuracies, experts have pointed out.
- ❖ The ability to search the Internet in real-time, including content such as hate speech and racial and gender biases and stereotyping, could lead to problems, and take the sheen off these new products.
- ❖ Even with natural language processing, they may not fully comprehend a customer's input and may provide incoherent answers.
- ❖ Many chatbots are also limited in the scope of queries that they are able to respond to

## 16.8. CHANDRAYAAN-3'S LIKELY LANDING SITES FINALISED BY ISRO.

- ❖ All the probable three landing sites are on moon's south polar region on the side facing earth.
  - ✓ Landing sites are decided on basis of local and global slope, illumination from sun, radio communication with earth, and crater and boulder sizes.
  - ✓ Prime landing site lies between Manzius U and Boguslawsky M craters (southern pole region) on moon.
- ❖ Chandrayaan-3 is a follow-on mission to Chandrayaan-2.
- ❖ Its primary objective is putting a Lander and rover in highlands near south pole of Moon in 2023.
- ❖ It consists of Lander and Rover configuration.

- ✓ Lander: Chandra's Surface Thermophysical Experiment measure thermal conductivity and temperature; Instrument for Lunar Seismic Activity measures seismicity around landing site; Langmuir Probe estimates plasma density and its variations.
- ✓ Rover: Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscopy (LIBS) for deriving elemental composition in vicinity of landing site.
- ❖ It'll be launched by Geosynchronous Satellite Launch Vehicle (GSLV) Mk III from Sriharikota, Andhra Pradesh.
  - ✓ GSLV is a 3-stage rocket, powered by a cryogenic engine.

#### **EARLIER CHANDRAYAAN MISSIONS**

- ❖ Chandrayaan-1 (2008): Successfully inserted into lunar orbit.
- ❖ Chandrayaan-2 (2019): Successfully launched and inserted into lunar orbit in 2019, but its lander crash-landed on the moon's surface due to a software glitch.

### **16.9. CHINESE SPY BALLOONS HAVE TARGETED SEVERAL COUNTRIES, INCLUDING INDIA: REPORT**

- ❖ A US media report has claimed that China has been operating a fleet of spy balloons targeting many countries including India.
- ❖ This comes in the backdrop of U.S. Air Force fighter jet shooting down spy balloon off South Carolina coast.

#### **ABOUT SPY BALLOON**

- ❖ Spy balloon is a high-altitude surveillance tool that usually operates at 80,000-120,000 feet.
- ❖ It gathers intelligence and carry out other military missions.
- ❖ It is equipped with cameras and imaging devices suspended beneath the gas-filled white object to capture things of interest.
- ❖ Advantages: Cost-effective in comparison to satellites. Also, scan an area from close quarters and capture clearer, high-resolution images of target.
- ❖ Disadvantage: Deflected due to wind current.

### **16.10. ISRO AND INDIAN NAVY CONDUCT KEY TRIALS FOR GAGANYAAN MISSION.**

- ❖ The Indian Space Research Organisation (ISRO), along with the Indian Navy, has conducted an important trial for the Gaganyaan, human space flight mission.
- ❖ Recently they carried out initial recovery trials of the Crew Module in the Navy's Water Survival Test Facility (WSTF) in Kochi.
- ❖ The trials were part of the preparation for crew module recovery operations for the Gaganyaan mission that will be carried out in Indian waters with the participation of Indian Government agencies.
- ❖ The overall recovery operations are being led by the Indian Navy.

#### **SIGNIFICANCE OF THE TRIAL:**

- ❖ According to ISRO, as the safe recovery of the crew is the final step to be accomplished for any successful human spaceflight, it is of paramount importance and it has to be carried out with the minimum lapse of time.
- ❖ These trials assist in validating the SoP, and training recovery teams as well as the flight crew.
- ❖ They provide valuable inputs for the utilization of recovery accessories.
- ❖ The feedback from the recovery team/trainers helps improve the recovery operations SoP, design various recovery accessories, and finalize the training plan.

#### **ABOUT GAGANYAAN PROJECT**

- ❖ The Gaganyaan project envisages demonstration of human spaceflight capability by launching a crew of three members to an orbit of 400 km for a three day mission and bringing them back safely to earth, by landing in Indian sea waters.
- ❖ The first trial (uncrewed flight) for Gaganyaan is being planned by the end of 2023 or early 2024. This will be followed by sending Vyom Mitra, a humanoid and then with the crew onboard.
- ❖ This manned mission will be the first of ISRO's human spaceflight missions.
  - ✓ The US, Russia and China are the only three countries to have conducted human spaceflights yet.
- ❖ It will be launched by ISRO's Geosynchronous Satellite Launch Vehicle GSLV Mk III (3 stages heavy-lift vehicle).

#### **SIGNIFICANCE OF THE MISSION**

- ❖ It will help India in achieving self-reliance, in line with the vision of Atma Nirbhar Bharat.
- ❖ It will also enhance the research and development (R&D) at science and technology levels especially in the space sector.
- ❖ It is in line with India's progress towards a sustained and affordable human and robotic programme to explore the solar system and beyond.
- ❖ Gaganyaan will focus on regional needs because one International Space Station (ISS) may not be enough to cater to global requirements.
- ❖ The programme will strengthen international partnerships and global security through the sharing of challenging and peaceful goals.

### 16.11. INDIAN FIRM SUCCESSFULLY TEST-FIRES WORLD'S FIRST 3D-PRINTED ROCKET ENGINE.

- ❖ Agnikul-Cosmos, a space-tech startup incubated in IIT-Madras, has successfully conducted the flight acceptance test for its 3D printed rocket engine "Agnilet"
- ❖ Unlike other rocket engines, Agnilet was built in a single step, eliminating thousands of parts that are typically assembled in a conventional rocket engine.
- ❖ It is a semi-cryogenic engine, which uses a mixture of liquid kerosene at room temperature and super cold liquid oxygen as fuel.
- ❖ During the test, it generated sea level thrust of 6 kilo Newton.
- ❖ Agnilet Engine will power the company's launch vehicle, Agnibaan, which is capable of carrying payloads of up to 100kg to a low-earth orbit.
- ❖ Launch of Agnibaan will be the second by a private firm - after Hyderabad-based Skyroot Aerospace's Vikram-S, which took place in November 2022.
- ❖ Earlier Agnikul also unveiled India's first privately designed and operated rocket launchpad and mission control centre (located at Sriharikota).
- ❖ It is specifically built to support liquid-stage controlled launches while also addressing ISRO's need for monitoring key flight safety parameters during launches.

### 16.12. SCIENTISTS DISCOVER NEW 'QUASICRYSTAL' IN NEBRASKA, USA

- ❖ Scientists have discovered a new type of quasicrystal, one with 12-fold symmetry, in the Sand Hills of north central Nebraska, USA.
  - ✓ The dodecagonal quasicrystal is an example of a quasicrystal of any kind formed by electrical discharge.
- ❖ Quasicrystal is essentially a crystal-like substance. However, unlike a crystal, in which atoms are arranged in a repeating pattern, **a quasicrystal consists of atoms that are arranged in a pattern that doesn't repeat itself regularly.**
- ❖ Quasicrystals can be easily produced in labs.
- ❖ It's the first time that researchers have found a quasicrystal somewhere other than meteorites or the debris from nuclear blasts.
- ❖ It's quite rare to discover naturally occurring quasicrystals.
  - ✓ The first one was identified in a meteorite, found in 2009 near the Khatyrka River in Chukhotka, Russia.
  - ✓ The second one was discovered in 2021 during the study of debris from the site of the world's first nuclear explosion, which took place in 1945 in New Mexico.

#### USES

- ❖ Since their discovery, quasicrystals have been widely created in labs and known to "possess novel electrical, photonic, and mechanical properties that aren't found in other materials".
- ❖ They are used in manufacturing non-stick frying pans, needles for acupuncture and surgery, dental instruments and razor blades.

### 16.13. MARBURG VIRUS DISEASE.

- ❖ Equatorial Guinea has confirmed its first-ever outbreak of MVD.
- ❖ Marburg virus disease is a highly virulent disease that causes haemorrhagic fever, with a fatality ratio of up to 88%. It is in the same family as the virus that causes Ebola virus disease.
  - ✓ Though caused by different viruses, two diseases are clinically similar.
- ❖ Like Ebola, the Marburg virus originates in bats and spreads between people via close contact with the bodily fluids of infected people, or surfaces, like contaminated bed sheets.

- ❖ **Symptoms-** Illness caused by Marburg virus begins abruptly, with high fever, severe headache and severe malaise. Many patients develop severe haemorrhagic symptoms within seven days.
- ❖ There are no authorized vaccines or drugs to treat Marburg, but rehydration treatment to alleviate symptoms can improve the chances of survival.
- ❖ MVD was initially detected in 1967 in Marburg and Frankfurt (Germany); and in Belgrade (Serbia)

### 16.14. KAVACH- 2023.

- ❖ All India Council for Technical Education (AICTE), Bureau of Police Research and Development (BPR&D) and Indian Cyber Crime Coordination Centre (I4C) jointly launched KAVACH- 2023.
- ❖ KAVACH- 2023 is a national level hackathon to identify innovative ideas and technological solutions for addressing cyber security and cybercrime challenges of 21st century.
- ❖ It'll be conducted in two phases. Youth from educational institutions and registered start-ups are expected to participate in it.
- ❖ The Kavach problem statement includes **20 unique and important matters**, which are shared by BPRD and Indian Cyber Crime Coordination Centre. These critical problems include women's safety apps, obscenity blocker solutions, phishing detection solutions, dark web crawlers, citizen safety apps and malware analysis tools.
- ❖ Prize money worth Rs. 20 Lakh will be awarded to winning teams.

### 16.15. VOLATILES.

- ❖ Volatiles are elements or compounds that change from solid or liquid state into vapour at relatively low temperatures.
  - ✓ The most common volatiles are carbon dioxide, nitrogen, ammonia, hydrogen, methane, sulphur dioxide and water.
- ❖ New research suggests that some of the well-known volatiles may have come from beyond inner solar system such as zinc, a volatile, has come from asteroids originating in the outer Solar System beyond the asteroid belt.
- ❖ Without contribution of outer Solar System material, the Earth would have had fewer concentrations of volatiles, making the planet drier and potentially unable to nourish and sustain life.
- ❖ Material with a high concentration of zinc and other volatile constituents is also likely to be rich in water, giving clues about the origin of Earth's water.
- ❖ In a recent study, the researchers examined meteorites from the inner Solar System, known as non-carbonaceous meteorites, and from the outer Solar System, known as carbonaceous meteorites.
- ❖ While the Earth only incorporated about ten percent of its mass from carbonaceous bodies, this material supplied about half of Earth's zinc.

### 16.16. VERTIPLANE X3 DRONE DELIVERS TB MEDICINE

- ❖ AIIMS-Rishikesh tested feasibility of drones supplying medicines to primary health centres or smaller hospitals in cases of emergency.
  - ✓ The aerial distance of nearly 40 kilometres between the helipad at AIIMS and the hospital was covered in 30 minutes.
- ❖ Vertiplane X3 is the fastest 'made-in-India hybrid' e-VTOL (electric vertical take-off and landing) drone with a maximum speed of 120 kmph, distance coverage of 100 km and a payload capacity of 3 kg. It is built by TechEagle, a deeptech firm.
- ❖ Drone has two propulsion systems and has hybrid capabilities of a helicopter and an aeroplane.
- ❖ **Applications:** Delivery of cargo for healthcare, defence, maritime, hyperlocal, and e-commerce.

### 16.17. LEXI': INDIA'S FIRST AI ASSISTANT POWERED BY CHATGPT

- ❖ Lexi, a ChatGPT-powered AI chatbot, has arrived in India.
- ❖ Velocity, a financial technology firm, launched the chatbot to assist e-commerce owners by presenting them with business information in a simplified manner.
- ❖ Velocity insights, Velocity's proprietary analytics platform, has been linked with the chatbot.

### 16.18. INDIA'S FIRST HYBRID SOUNDING ROCKET.

- ❖ Martin Foundation, in association with Dr. APJ Abdul Kalam International Foundation and Space Zone India, launched the Dr. APJ Abdul Kalam Satellite Launch Vehicle Mission- 2023.
  - ✓ Around 3,500 students from government schools across the country became part of a team that designed and constructed a student satellite launch vehicle (rocket) and 150 PICO satellite research experiment cubes.
- ❖ Rocket can be used for research in weather, atmospheric conditions and radiations.
- ❖ Sounding rockets are **one or two stage solid propellant rockets** used for probing upper atmospheric regions (Aeronomy) and for space research.
  - ✓ Can also be used to test or prove prototypes of new components or subsystems intended for use in launch vehicles and satellites.
- ❖ Sounding rockets take their name from the nautical term "to sound," which means to take measurements.
- ❖ Hybrid-rocket uses different propellants, i.e., one solid and other being either gas or liquid.

#### BRIEF HISTORY

- ❖ The launch of the first sounding rocket from Thumba near Thiruvananthapuram, Kerala on 21 November 1963, marked the beginning of the Indian Space Programme.
- ❖ In 1967, ISRO launched its own version of sounding rockets - Rohini RH-75.
- ❖ In 1975, ISRO consolidated all sounding rocket activities under Rohini Sounding Rocket (RSR) Programme.
- ❖ Rohini RH-200 (meteorology purpose) along with RH-300 Mk 2 and RH-560 Mk 2 (both for Aeronomy) are three sounding rockets currently operational with ISRO.

#### 16.19. INDIA'S FIRST AGRI CHATBOT AMA KRUSHAI LAUNCHED IN ODISHA.

- ❖ Governor of Odisha launched India's first AI Chatbot for the Agricultural sector 'Ama KrushAI' at the valedictory session of 'Krusha Odisha 2023'.
- ❖ Ama KrushAI chatbot will help the farmers with the best agronomic practices, inform them about government schemes, and loan products from more than 40 commercial and cooperative banks.
- ❖ Ama KrushAI will run under a pilot project involving more than 10,000 farmers and will be implemented in full-fledged in the next two months.

#### 16.20. THIRD PATIENT OF HIV CURED WITH STEM CELL TRANSPLANT

- ❖ A 53-year-old man from Germany, referred to as the **Dusseldorf patient**, has become at least the third person to have been "cured of HIV" with the virus not being detectable in his body even four years after stopping the medicine.
  - ✓ Referred to as the Berlin patient, Timothy Ray Brown became the first person to overcome HIV after he underwent two stem cell transplants in 2007 and 2008 for treating his blood cancer.
- ❖ This was achieved with a bone-marrow transplant from people carrying a specific HIV-resistant genetic mutation called CCR5-delta 32 genetic mutation.
- ❖ A bone marrow transplant is a procedure that infuses healthy blood-forming stem cells into body to replace bone marrow that's not producing enough healthy blood cells.
  - ✓ Bone marrow transplants may use cells from your own body (autologous transplant) or from a donor (allogeneic transplant).

#### PROCESS

- ❖ HIV mainly attacks CD4 immune cells (type of white blood cell) in human body, thereby reducing a person's ability to fight off secondary infections.
- ❖ CCR5 receptors on surface of CD4 immune cells act as a doorway for HIV virus.
- ❖ However, CCR5-delta 32 mutation prevents these receptors used by HIV virus from forming on the surface, effectively removing the doorway.

#### ABOUT STEM CELLS

- ❖ Stem cells are special human cells that are able to develop into many different cell types.
- ❖ Stem cells provide new cells and replaces specialized cells that are damaged or lost. Based on the cell type/tissue of origin, stem cells are classified as
  - ✓ Somatic Stem Cells (also known as adult stem cells) and
  - ✓ Embryonic Stem Cells.

#### 16.21. NEUTRINOS.

- ❖ Recently, physicists working with the Kamioka Liquid Scintillator Antineutrino Detector (KamLAND) in Japan reported that after analysing two years' data, they could not find signs that neutrinos could be their own anti-particles.
- ❖ KamLAND looks for an event called neutrinoless double beta-decay.
  - ✓ In normal double beta-decay, two neutrons in an atom turn into two protons by emitting two electrons and two electron antineutrinos.
  - ✓ In neutrinoless double beta-decay, the anti-neutrinos aren't emitted, which can happen only if anti-neutrinos are just different kinds of neutrinos.

#### ABOUT NEUTRINOS

- ❖ Neutrinos are the second most abundant particles in the Universe after photons (light particles), produced in copious amounts in the cores of stars.
- ❖ **Properties:** Because they are so ubiquitous, their properties are windows into the microscopic structure of the universe.
- ❖ An open question about neutrinos is whether they are their own antiparticles. If they were, physicists will have a way to explain why the universe has more matter than antimatter.
- ❖ Probing of oscillations of neutrinos and their relations with mass are crucial in studying the origin of the universe.
- ❖ Sources of Neutrinos: Neutrinos are created by various radioactive decays; during a supernova, by cosmic rays striking atoms etc.

#### ANTI-PARTICLES

- ❖ Every elementary particle has an antiparticle. If the two meet, they will destroy each other in a flash of energy.
- ❖ The electron's antiparticle is the positron. Similarly, neutrinos have anti-neutrinos.
- ❖ However, an electron is distinguishable from a positron because they have opposite charges.
- ❖ Neither neutrinos nor anti-neutrinos have electric charge, nor any other properties to really differentiate between them.

### 16.22. AFTER- AIIMS FACIAL TOOLBOX FOR EMOTIONAL RECOGNITION.

- ❖ AIIMS Delhi has developed AFTER (a new tool) to detect human emotions.
- ❖ It will create an emotional facial expression database (collection of images with great social and biological relevance).
- ❖ It will help in treating persons with autism, schizophrenia, and depression.
- ❖ It rates emotions on a 5-point Likert scale in three dimensions: intensity, clarity, and authenticity.
- ❖ Likert scale is a unidimensional scale that researchers use to collect respondents' attitudes and opinions

CivilsTap Hlmachal

## 17. SPORTS

### 17.1. 5TH KHELO INDIA YOUTH GAMES INAUGURATED.

- ❖ The Union Minister of Sports and Youth Affairs inaugurated the 5<sup>th</sup> edition of Khelo India Youth Games in Madhya Pradesh at the **Tatya Tope Nagar Stadium** (Bhopal).
- ❖ Around **6000 players from across the country** will try their sports skills for more than **900 medals in 27 sports events** of these games. **For the first time sports like kayaking, canoeing, canoe slalom and fencing will be part of the Khelo India Youth Games.**
- ❖ The **theme** for this edition is - '**Hindustan Ka Dil Dhadka Do**'.
- ❖ The Khelo India Youth Games was **started in 2018** under the name **Khelo India School Games**. The aim of these games is to **find and groom sports talents at the local level** and train them for national and international sports events.

### 17.2. EOIN MORGAN ANNOUNCES RETIREMENT.

- ❖ Eoin Morgan, who led England to their first-ever ICC Men's Cricket World Cup title in 2019, has announced his retirement from professional cricket with immediate effect.
- ❖ One of England's white-ball greats, Morgan remains England's leading run-scorer – 6957 runs in 225 ODIs with 13 hundreds – and the most successful captain in ODIs, with 76 wins from 126 matches he led in.

### 17.3. JEAN-ERIC VERGNE WON FORMULA E-PRIX.

- ❖ DS Penske's Jean-Eric Vergne won Formula E's first race in Hyderabad.
- ❖ The first-ever Formula E race in India was hosted in Hyderabad, the race that also happens to be the first FIA-organised event in India in a decade.
- ❖ The Hyderabad E-Prix is the fourth race in the Formula E 2023 calendar, being preceded by Season 9 opener in Mexico City and two races in Diriyah (Saudi Arabia).

### 17.4. SAURASHTRA BEAT BENGAL TO BAG SECOND RANJI TROPHY TITLE 2022-23.

- ❖ Saurashtra defeated Bengal by nine wickets to clinch its second Ranji Trophy 2022-23 title at the Eden Gardens in Kolkata.
- ❖ Saurashtra won the Ranji Trophy title for the first time in 2019-20.

#### ABOUT RANJI TROPHY

- ❖ It is a domestic first-class cricket championship that is played in India between multiple teams representing regional and State cricket associations.
- ❖ There are 38 teams from 28 states in India and 4 of the 8 union territories have at least one representative.
- ❖ This tournament is named after the first Indian cricketer who played international cricket Ranjitsinhji, who was also known as Ranji.
- ❖ The first trophy was donated by Bhupinder Singh the Maharaja of Patiala.
- ❖ On November 4th, 1934 the first match was played between Madras and Mysore at the Chepauk ground in Madras.

### 17.5. DANIIL MEDVEDEV WINS QATAR OPEN TITLE

- ❖ Daniil Medvedev won the Qatar Open men's singles by defeating Andy Murray 6-4, 6-4, in the final game.
- ❖ In the women singles, Iga Swiatek defeated Jessica Pegula.



## 18. PLACES IN NEWS

### 18.1. SINTHAN TOP.

- ❖ For the first time, the road to Sinthan Top has been opened in the month of February 2023 with an aim to promote tourism to this off-beat destination in Jammu and Kashmir.
- ❖ Sinthan Top is a high mountain pass that is located between the Breng valley in Anantnag district and Kishtwar of J&K which connects Kashmir to Chenab Valley.

## 19. SOCIAL ISSUES, HEALTH, EDUCATION

### 19.1. GLOBAL REPORT ON NEGLECTED TROPICAL DISEASES 2023 RELEASED BY WHO.

- ❖ Neglected tropical diseases (NTDs) are a diverse group of diseases that are mainly prevalent in tropical areas. Examples: Dengue and chikungunya, lymphatic filariasis, soil-transmitted helminthiases etc.
- ❖ Report provides a consolidated, up-to-date assessment of progress towards control, elimination and eradication of 20 diseases and disease groups (NTDs) globally, regionally and nationally.
- ❖ Progress is reported in the context of NTD roadmap 2021-2030, WHO's blueprint to drive global efforts in the fight against NTDs.

#### KEY HIGHLIGHTS:

- ❖ **Burden of NTDs continues to be unequally borne by a small number of countries:** 16 countries bear 80% of this burden.
- ❖ Over the past decade, the number of people requiring interventions against NTDs decreased by 25%.
- ❖ As of December 2022, 47 countries had eliminated at least one NTD.
- ❖ **Threats**
  - ✓ Slower than expected progress in high burden countries,
  - ✓ Uneven progress across certain diseases,
  - ✓ Persistent underlying risk factors (poverty, climate change) and
  - ✓ Rapid population growth.
- ❖ **Recommendations**
  - ✓ Invest in innovative operations and financing solutions that foster integration and cross-sectoral collaboration.
  - ✓ Boost global support for countries with highest burdens,
  - ✓ Facilitate country ownership and sustainability of NTD programmes.

#### SOME GLOBAL INITIATIVES

- The London Declaration on NTDs.
- **30 January** recognised as World Neglected Tropical Diseases Day.
- **Kigali Declaration** on Neglected Tropical Diseases- is a global health project that aims to mobilise political and financial resources for the control and eradication of infectious diseases, the so-called neglected tropical diseases due to different parasitic infections.

### 19.2. GLOBAL SPREAD OF VACCINE-DERIVED POLIO DISEASE (VDPD) STILL A HIGH RISK: WORLD HEALTH ORGANIZATION.

- ❖ The risk of global spread of poliovirus remains a public health emergency of international concern, a World Health Organization committee has found after looking into updates from 10 countries.
- ❖ While the risk of global spread of wild poliovirus remains, the risk of circulating vaccine-derived ones is higher.
- ❖ Several measures like declaring poliovirus transmission as a national public health emergency and ensuring vaccinations for travellers and residents have been recommended by WHO.

#### ABOUT POLIO

- ❖ Poliomyelitis (polio) is a highly infectious disease that invades the nervous system.
- ❖ There are 3 types of wild polio virus - type 1, type 2, and type 3. Only type 1 wild poliovirus remains in circulation.

- ❖ There are two types of vaccinations that work against poliovirus: inactivated poliovirus (IPV) and oral poliovirus (OPV).
  1. **IPV** is produced from wild-type poliovirus strains that have been inactivated (killed) with formalin.
  2. **OPV** contains an attenuated (weakened) vaccine-virus, which activates an immune response in the body.
- ❖ However, **OPV can lead to rare emergence of VDPVs** when there is prolonged circulation or replication of the vaccine virus.

#### TYPES OF VDPVS:

- ❖ Circulating VDPV (cVDPV), immunodeficiency VDPV (iVDPV), and ambiguous VDPV (aVDPV).
- ❖ VDPVs are mostly found in children with immune-deficiency and among populations with low immunity levels.
- ❖ In 2014, India was officially declared polio-free, along with the rest of the South-East Asia Region.

### 19.3. INDIA HOSTS ASIAN MINISTERIAL ENERGY ROUNDTABLE.

- ❖ India hosted 9th Asian Ministerial Energy Roundtable in association with IEF in Bengaluru.
- ❖ **Theme** for this roundtable was "Mapping new pathways for energy security, inclusive growth and energy transitions".

#### INDIA'S STEPS TOWARDS ENERGY TRANSITION

- ❖ India recognizes that its energy transition path will involve a variety of energy solutions to support energy and economic growth. **Advanced biofuels, green hydrogen, renewables and nuclear** will play a critical role in the energy mix as India charts its path to the energy transition.
- ❖ India has met its commitment of 40% of its installed electricity capacity from non-fossil energy sources by 2030 November 2021.
- ❖ The country's installed Renewable Energy (RE) capacity by October 2022 stands at 166 Giga Watt while its nuclear energy-based installed electricity capacity stands at 6.78 Giga Watt.
- ❖ India is setting up 2G refineries utilizing agricultural waste and bamboo to make ethanol, using indigenous technology.
- ❖ This contributes to achieving rural prosperity and also goes a long way in reducing pollution along with achieving energy security goals.
- ❖ E20 Fuel launched recently also added to the splendid Indian journey to decarbonization with roll out of E20 by PM yesterday, much earlier than the initial target date of 1st April 2023.
  - ✓ Fifteen cities will be covered under phase 1. A phased rollout of E20 in the entire country is targeted till April 2025.

#### ABOUT INTERNATIONAL ENERGY FORUM

- ❖ IEF is world's largest international organization of energy ministers from 72 countries (including India) and includes both producing and consuming nations.
- ❖ Member countries are signatories to IEF Charter, which outlines framework of global energy dialogue through this inter-governmental organization.
- ❖ HQ: Riyadh, Saudi Arabia.

### 19.4. EXPLAINED | WHY CAR T-CELL THERAPY IS CANCER TREATMENT'S NEXT MOONSHOT.

- ❖ The main treatments for cancer are surgery, radiotherapy and systemic therapy.
- ❖ Surgery and radiotherapy have improved over time, but advances in systemic therapy have been particularly impressive, with Chimeric antigen receptor (CAR) T-cell therapy being a recent breakthrough attracting global attention.
- ❖ Systemic therapy began with chemotherapy, which attacks cancer cells due to their fast growth. Chemotherapy drugs have limited success and significant side effects because they affect many types of cells in the body.
- ❖ The next advancement was targeted agents, also known as immunotherapy, which work by binding to specific targets on the cancer or immune cells supporting its growth. This approach is less toxic as it affects fewer non-tumor cells, but only works on tumours that have these targets.

#### ABOUT CAR T-CELL THERAPY:

- ❖ CAR T-cell therapies are a major breakthrough in cancer treatment.
- ❖ Unlike chemotherapy or immunotherapy which involve taking drugs, CAR T-cell therapies use a patient's own cells. They are modified in the laboratory to activate T-cells and target tumor cells.
- ❖ CAR T-cell therapy has been approved for leukaemias (cancers arising from the cells that produce white blood cells) and lymphomas (arising from the lymphatic system).

**PROCEDURE:**

- ❖ T cells are taken from a patient's blood and then the gene for a special receptor that binds to a certain protein on the patient's cancer cells is added to the T cells in the laboratory.
- ❖ The special receptor is called a **chimeric antigen receptor (CAR)**. Large numbers of the CAR T cells are grown in the laboratory and given to the patient by infusion.

**ABOUT T CELLS**

- ❖ T cells, also known as T lymphocytes, are a type of white blood cell that play a central role in the immune response.
- ❖ T cells are involved in cell-mediated immunity, which means they help the body recognize and respond to foreign substances, such as viruses, bacteria, and abnormal cells, such as cancer cells.
- ❖ There are two major types of T cells: the helper T cell and the cytotoxic T cell.
- ❖ As the names suggest, helper T cells 'help' other cells of the immune system, whilst cytotoxic T cells kill virally infected cells and tumors.

**SIGNIFICANCE:**

- ❖ CAR T-cell therapies are even more specific than targeted agents and directly stimulate the patient's immune system to fight cancer, leading to greater clinical efficacy. That's why they're referred to as "living drugs."

**CHALLENGES:**

- ❖ **Preparation:** The difficulty of preparing CAR T-cell therapies has been a major hindrance to their widespread use.
- ❖ **Side Effects:** The potential side-effects are also significant, associated with cytokine release syndrome (a widespread activation of the immune system and collateral damage to the body's normal cells) and neurological symptoms (severe confusion, seizures, and speech impairment).
- ❖ **Affordability:** Introduction of CAR T-cell therapy faces challenges of cost and value. Critics argue that developing CAR T-cell therapy in India may not be cost-effective as it will still be unaffordable for most people.

**19.5. LYMPHATIC FILARIASIS (LF).**

- ❖ Recently, Mass Drug Administration (MDA) was launched by Union Ministry of Health and Family Welfare against Lymphatic Filariasis.
- ❖ The country is aiming at eliminating the disease by 2027 through a door-to-door mass drug administration program. The government will focus on **high-burden districts** of the **10 affected states** – Bihar, Chhattisgarh, Jharkhand, Maharashtra, Uttar Pradesh, West Bengal, Karnataka, Odisha, Madhya Pradesh, and Andhra Pradesh.
- ❖ LF or elephantiasis, is a neglected tropical disease. Infection is usually acquired in childhood causing hidden damage to the lymphatic system.
- ❖ **Symptoms:** Abnormal enlargement of body parts.
- ❖ It is a parasitic disease caused by filarial worms *Wuchereria bancrofti*, *Brugia malayi*, and *Brugia timori* i.e. Nematodes (roundworms) of family Filarioididea.
- ❖ **Transmitted by:** Mosquitoes including *Culex*, *Anopheles* and *Aedes*.
- ❖ Lymphatic filariasis is a major public health problem in many tropical and subtropical countries, particularly in Africa, Southeast Asia, and the Western Pacific.
- ❖ Lymphatic filariasis affects over 120 million people in 72 countries, with India accounting for 40 percent of the global case burden.
- ❖ **Global initiative:** Global Programme to Eliminate Lymphatic Filariasis by the WHO.

**19.6. MONKEYPOX.**

- ❖ According to the World Health Organization (WHO), as many as 85,765 confirmed and 1,382 probable cases of mpox (monkeypox) were reported from 110 countries since 1st January, 2022.
- ❖ The United States was the most affected, recording 29,948 confirmed cases.
- ❖ WHO assessed the global risk as 'Moderate' and also announced that it would prefer to refer to the disease as mpox rather than monkeypox.

**ABOUT MONKEYPOX**

- ❖ Monkeypox is a zoonotic viral disease with symptoms similar to smallpox but is less contagious.
- ❖ It was first diagnosed in humans in 1970 in the Democratic Republic of Congo in Africa.

- ❖ Vaccines used to eradicate smallpox provide protection against mpox.
  - ✓ New vaccines against the disease have also been developed and approved.

## 19.7. SICKLE CELL ANAEMIA.

- ❖ Recently in Budget 2023-24, the Finance Minister has announced that India will eliminate the sickle cell Anaemia condition in a mission mode by 2047.

### CURRENT SCENARIO

- ❖ India is the second-worst affected country in terms of predicted births with SCA — i.e. chances of being born with the condition.
- ❖ Research and screening programmes have found that the prevalence of haemoglobinopathies — disorders of the blood — is more common among tribal populations than non-tribal communities in India.
- ❖ SCA is prevalent in communities residing in areas where malaria is endemic. The sickle cell trait thus gave an evolutionary advantage, offering immunity to some people during malaria epidemics.
- ❖ Prevalence of SCA is higher in communities that practice endogamy, as the chances of having two parents with sickle cell trait is higher.

### ABOUT SICKLE CELL ANAEMIA

- ❖ Sickle cell disease (SCD) is a group of inherited (genetic) red blood cell disorders.
- ❖ Red blood cells (RBCs) contain hemoglobin, a protein that carries oxygen. Healthy red blood cells are round, and they move through small blood vessels to carry oxygen to all parts of the body. In SCD, the hemoglobin is abnormal, which causes the RBCs to become hard and sticky and look like a C-shaped farm tool called a “sickle.”
- ❖ It is transmitted by parents carrying a defective ‘beta globin’ gene.
- ❖ The sickle cells die early, which causes a constant shortage of RBCs.
- ❖ When they travel through small blood vessels, they get stuck and clog the blood flow. This can cause pain and other serious complications (health problems) such as infection, acute chest syndrome and stroke.

### CURE

- ❖ SCA is a genetic disorder, making complete “elimination” a challenge that requires a major scientific breakthrough. The only cure comes in the form of gene therapy and stem cell transplants — both costly and still in developmental stages.
  - ✓ **Gene Therapy:** The DNA inside the haemoglobin gene is edited to stop the disease.
  - ✓ **Stem cells Transplant:** the bone marrow affected by sickle cell anaemia is replaced with healthy bone marrow from a donor.
  - ✓ **Blood Transfusion:** RBCs are removed from donated blood and given to a patient, but challenges include a scarcity of donors, fears around safe supply of blood, risk of infection etc.

### EFFORTS BY INDIA TO ELIMINATE SCA

- ❖ The Indian Council of Medical Research and the National Rural Health Mission in different States are undertaking outreach programmes for better management and control of the disease. The Ministry of Tribal Affairs launched a portal wherein people can register themselves, in order to collate all information related to SCA among tribal groups.
- ❖ The National Health Mission guideline on Hemoglobinopathies also identifies “establishing services at the community level for pre-marital and pre-conception screening backed by genetic counselling services” as a strategy for addressing SCA.
- ❖ In the Budget, the union Health minister said the government plans to distribute “special cards” across tribal areas and the mission will receive funding under the National Health Mission.
- ❖ The mission will entail awareness creation, universal screening of seven crore people in the age group of 0-40 years in effective tribal areas and counselling through collaborative efforts of central ministries and State governments.

## 19.8. TSE TSE FLY.

- ❖ A recent study shows that tsetse flies produce volatile pheromones that control their mating behaviour and the dangerous diseases they carry. With climate change projected to expand the areas in which tsetse flies can survive, more humans and animals are expected to be affected by these diseases in the coming years.
- ❖ Tsetse flies are known to carry parasites called **African trypanosomes**.

- ❖ When the insects bite humans or animals, they transmit these parasites, spreading diseases such as **African sleeping sickness**, which can be fatal to humans, and **nagana**, a disease that affects livestock and other animals.

### 19.9. ALARMS RING AS DEADLY ASIAN MALARIA VECTOR DETECTED IN KENYA.

- ❖ A deadly malaria vector, transmitter Anopheles Stephensi, has been detected in Kenya.
- ❖ Kenya is now the sixth and latest country in Africa to report an invasion of the deadly malaria species.
- ❖ Anopheles Stephensi originated in Southeast Asia, West Asia and Arabian Peninsula.

#### ABOUT MALARIA

- ❖ Malaria is a life-threatening mosquito borne blood disease caused by plasmodium parasites.
- ❖ It is predominantly found in the tropical and subtropical areas of Africa, South America as well as Asia.
- ❖ It is both preventable as well as curable.
- ❖ There are 5 parasite species that cause malaria in humans, and 2 of these species – P. falciparum and P. vivax – pose greatest threat.
- ❖ Anopheles stephensi is capable of transmitting both Plasmodium falciparum and P. vivax.
  - ✓ It is highly adaptive and can thrive in urban environments.

### 19.10. MoHFW PROPOSES CENTRALISED QUALITY CHECKING SYSTEM FOR DRUGS.

- ❖ Ministry of Health and Family Welfare (MoHFW) is preparing a proposal to create a centralised system of drug registration under Central Drugs Control Standard Organisation (CDSCO) to keep a close watch on drug quality.
- ❖ This plan comes in backdrop of string of scandals abroad over toxic Indian drugs like cough syrups causing children's deaths in Gambia and Uzbekistan etc.
- ❖ It involves repurposing CDSCO's online portal **Sugam** which maintain quality checks on new drugs.

#### DRUG REGULATION IN INDIA

- ❖ CDSCO, central drug authority under MoHFW, regulates quality, safety, and efficacy of drugs including vaccines under New Drugs and Clinical Trials Rules 2019, and Drugs and Cosmetics Act, 1940.
- ❖ It also regulates market authorization of new drugs and clinical trials standards; supervises drug imports and approves licenses to manufacture.
- ❖ CDSCO along with state drug regulators are responsible for grant of licenses for certain specialized categories of critical Drugs such as blood, vaccines, etc.
- ❖ CDSCO is headed by Drug controller general of India (DCGI). DCGI acts as an appellate authority if there is any dispute with respect to drugs quality.

### 19.11. BISPHENOL A (BPA) CHEMICAL.

- ❖ Recent study has highlighted accelerated breeding in 'Southern House Mosquito' due to presence of Bisphenol A in urban drains.
- ❖ BPA increases the secretion of 20-hydroxy ecdysone (20HE), a steroid hormone that plays a major role in the moulting of the insect larvae, and this shortens the time between larva and pupa .
- ❖ Bisphenol A or BPA is a chemical produced in large quantities for use primarily in production of polycarbonate plastics.
- ❖ It is commonly used in shatterproof windows, eyewear, water bottles, and epoxy resins.
- ❖ It can leach into food and beverages as well, exposing adults to ill effects of it such as high blood pressure, diabetes and cardiovascular disease.
- ❖ It can disrupt the endocrine system by interfering with hormones and affects brain and prostate gland of fetuses, infants and children.

### 19.12. NIRMAN SE SHAKTI INITIATIVE.

- ❖ Employees' State Insurance Corporation (ESIC) presented an initiative named as 'Nirman Se Shakti' to modernize infrastructure.
- ❖ The 'Nirman Se Shakti' initiative includes upgradation/modernization of **ESI Scheme (ESIS)** hospitals and dispensaries in a phased manner, formulation of standard design for 100/200/500 bedded hospitals with better modern facilities,

online real-time dashboard for project monitoring/supervision, adoption of new building technologies to ensure quality of construction, elimination of delays, cost overrun, digitalization of land/property documents etc.

#### ABOUT THE SCHEME

- ❖ The Employees' State Insurance Scheme (ESI) is an integrated measure of social Insurance for worker population and immediate dependent or family embodied in the Employees' State Insurance Act, 1948.
- ❖ It is under the purview of Ministry of Labour & Employment.

#### 19.13. DIVYA KALA MELA.

- ❖ Divya Kala Mela 2023 is a unique event showcasing the products and craftsmanship of Divyang entrepreneurs/artisans from across the country.
- ❖ It is a 10-day fair being organized at Mumbai by the Department of Empowerment of Persons with Disabilities (Divyangjan).
- ❖ Around 200 Divyang artisans/artists and entrepreneurs from about 24 states/UTs will be showcasing their products and skills at the fair.
- ❖ The event would present an enthralling experience to the visitors as vibrant products from various parts of the country including Jammu and Kashmir, Northeastern states, handicrafts, handlooms, embroidery works, packaged food, etc. will be seen together.

#### 19.14. 'JAADUI PITARA': LEARNING-TEACHING MATERIAL FOR FOUNDATIONAL YEARS LAUNCHED.

- ❖ 'Jadui Pitara' - a play-based learning-teaching material (LTM) designed for children aged between 3 to 8 years
- ❖ It has been developed under National Curriculum Framework for Foundational Stage (NCF-FS).
- ❖ It is designed to create curiosity and accommodate diverse needs of learners in foundational stage.
- ❖ National Education Policy 2020 envisages 5+3+3+4 (Foundational + Preparatory + Middle + Secondary) curriculum pedagogical structure.
  - ✓ A National Steering Committee headed by Prof. K. Kasturirangan will develop NCF for each of the stages.
- ❖ NCF-FS was launched by Ministry of Education in October, 2022 and accordingly, NCERT has developed LTM.
- ❖ NCF-FS emphasises play based learning for foundational stages.
- ❖ Accordingly, LTM for foundational stage was launched using the concept of Jaadui Pitara.

#### ABOUT JADUI PITARA

- ❖ Applies to Class 1 & 2 also (age 6-8).
- ❖ Available in 13 Indian languages.
- ❖ Toys, playbooks, puzzles, storybooks, puppetry, posters, flash cards, worksheets and attractive storybooks are part of the "Jaadui Pitara"
- ❖ "Jaadui Pitara" recommends learning and development in five domains — physical development, socio-emotional and ethical development, cognitive development, language and literacy development, aesthetic and cultural development.

#### 19.15. ANUBHUTI DIVYANG PARK

- ❖ The foundation stone of the world's largest and unique Divyang Park - Anubhuti Inclusive Park was laid down in Nagpur, Maharashtra recently.
- ❖ Anubhuti Inclusive Park is being built for disabled children and general citizens in the Pardi campus of Nagpur.
- ❖ The objective is to convey the message of inclusion in the country and the whole world.

#### ABOUT

- ❖ It is the world's first inclusive disabled park.
- ❖ Ministry of Social Justice and Empowerment is the nodal ministry.
- ❖ The park will have adapted facilities for all 21 types of disabilities like a touch and smell garden, hydrotherapy unit, water therapy, and independent room for mentally challenged children, and mothers.

## 20. MISCELLANEOUS

### 20.1. SAROJINI NAIDU BIRTH ANNIVERSARY CELEBRATED.

- ❖ 13<sup>th</sup> February marks the birth anniversary of Sarojini Naidu. She was famously known as **Bharatiya Kokila** (The Nightingale of India).
  - ✓ India celebrates Sarojini Naidu's birth anniversary as National Women's Day.

#### ABOUT

- ❖ Sarojini Naidu, was an Indian independence activist, poet, and politician.
- ❖ She was born on February 13, 1879, in Hyderabad, India.
- ❖ She joined the Indian national movement in the wake of partition of Bengal in 1905.
- ❖ The British government lauded Sarojini Naidu with the '**Kaisar-i-Hind**' Medal for her service during the plague epidemic in India.

#### Contribution to Indian Freedom Movement:

- ❖ **First Indian Woman President of Indian National Congress (INC)** in 1925(Kanpur Session).
  - ✓ Annie Besant was the first woman President of the INC who presided it in 1917.
- ❖ Naidu took part in the Non-Cooperation Movement launched by Gandhi in 1920 and was arrested several times for her involvement in various freedom activities.
- ❖ In 1930, Sarojini Naidu led 2,500 marchers on the **Dharasana Salt Works**, some 150 miles north of Bombay.
- ❖ She accompanied Gandhiji to London for the inconclusive **second session of the Round Table Conference** for Indian–British cooperation (1931).
- ❖ In 1942, Sarojini Naidu was arrested during the "Quit India" movement and was jailed for 21 months with Gandhiji.
- ❖ She traveled abroad to Raise Awareness about India's struggle for independence
- ❖ She also represented India at various international forums and spoke about the Indian independence movement and women's rights.
- ❖ After India gained independence, Naidu was appointed as the governor of Uttar Pradesh, becoming the **first woman to hold a governor's office** in India.
- ❖ **Literary works-**
  - ✓ Published in 1912, '**In the Bazaars of Hyderabad**' remains one of her most popular poems.
  - ✓ Other works include "**The Golden Threshold** (1905)", "**The Bird of Time** (1912)", and "**The Broken Wing** (1912)".

### 20.2. SWAMI DAYANAND SARASWATI BIRTH ANNIVERSARY CELEBRATED

Recently, Prime Minister paid tribute to Dayanand Saraswati on his 200th birth Anniversary.

#### ABOUT DAYANAND SARASWATI

- ❖ Born on February 12, 1824 in Tankara (Gujarat) and named Mul Shankar Tiwari.
- ❖ Swami Dayananda was a social reformer, hailing his contributions towards the fight against social discrimination and untouchability.
- ❖ He stressed the importance of education for all children and preached respect and equal rights for women.
- ❖ He spent 25 years as a wandering ascetic and travelled to the Himalayas, he also started practising Yoga during this time.
- ❖ He also preached against the giving of donations to priests. He also challenged established scholars and won debates against them through the strength of the Vedas.
- ❖ He was staunchly **against rituals and superstitions**.
- ❖ **Literary Works:** He wrote many books. His major contribution is **Satyartha Prakash**. Other books include **Sanskarvidhi**, **Rigved Bhashyam**, etc.
- ❖ He was first to give call for Swaraj as "India for Indian" in 1876.
- ❖ He started Shuddhi Movement wherein purification was imparted to those who sought their way back to Hinduism.

#### ARYA SAMAJ

- ❖ He founded Arya Samaj in 1875 to counter social inequities.
- ❖ Arya Samaj led a prolonged movement against untouchability and advocated the dilution of caste distinctions.
- ❖ He issued the slogan, "**Back to the Vedas.**"

- ❖ He was unconcerned with the Puranas.
- ❖ Swami learned Vedanta from a blind instructor named Swami Virajananda in Mathura. His viewpoints were similar to Ram Mohan Roy's.
- ❖ **Intercaste marriages** and **widow remarriages** were also **promoted**.
- ❖ Disbelief in polytheism and image worship, hostility to caste-based limitations, child marriage, opposition to the ban of sea journeys, and advocacy for female education and widow remarriage were all key programs shared by Brahmo Samaj and Arya Samaj members.
- ❖ He stressed on One God and rejected idol worship. He also advocated against the extolled position of priests in Hinduism. He opposed the multiplicity of castes.
- ❖ Dayanand Anglo Vedic trust and Management society in Lahore in 1886 , was an attempt to unite the samaj and its activities.

### 20.3. DEENDAYAL UPADHYAYA.

- ❖ The Prime Minister has paid tributes to Pandit Deendayal Upadhyaya Ji on his Punya Tithi (Death Anniversary).
- ❖ He was born in 1916 in Nagla Chandrabhan village, now called Deendayal Dham in Uttar Pradesh.
- ❖ He joined the Rashtriya Swayamsevak Sangh (RSS) and dedicated himself to full-time work in RSS from 1942.
- ❖ He started a monthly magazine "Rashtra Dharma", a weekly 'Panchajanya', and a daily 'Swadesh'.
- ❖ In 2019, Prime Minister unveiled a 63-foot tall statue of Pandit Upadhyaya while inaugurating the Pandit Deendayal Upadhyaya Memorial Centre in Padao on the Varanasi-Chandauli border.

### 20.4. WORLD BANK CHIEF DAVID MALPASS TO STEP DOWN EARLY

- ❖ World Bank President David Malpass has announced his resignation nearly a year early.
- ❖ He is ending tenure as the head of the development lender that was clouded by questions over his climate stance.
- ❖ The veteran of Republican administrations in the United States was appointed to the role in 2019 when Donald Trump was president and previously served as Under Secretary of the Treasury for international affairs. Malpass's term would have originally ended in 2024.

### 20.5. LT GEN MV SUCHINDRA KUMAR TO BE NEW VICE CHIEF OF ARMY.

- ❖ Lt Gen MV Suchindra Kumar has been named as the new Vice Chief of Army Staff, while incumbent Lt Gen B S Raju will take charge as South Western Army Commander.
- ❖ Lt Gen Kumar has been promoted as Army Commander and appointed as the new Vice Chief of Army Staff.
  - ✓ He is serving as the Deputy Chief of Army Staff (Strategy) in the Army Headquarters at present.
- ❖ Lt Gen Kumar is an alumnus of the National Defence Academy, Khadakwasla.
- ❖ He was commissioned into 1 Assam Regiment in June 1985.
- ❖ He has commanded the 59 Rashtriya Rifles Battalion, an Infantry Brigade, and an Infantry Division on the Line of Control. Lt Gen Kumar has also commanded the highly active White Knight Corps.

### 20.6. TEN NEW BREEDS OF INDIGENOUS FARM ANIMALS REGISTERED BY ICAR-NBAGR.

- ❖ ICAR-National Bureau of Animal Genetic Resources, Karnal (NBAGR) registered ten new breeds of

#### SPECIES:

- ❖ Kathani cattle (Maharashtra), Sanchori cattle (Rajasthan) and Masilum cattle (Meghalaya);
  - ✓ Masilum cattle are reared by Khasi and Jaintia communities.
- ❖ Purnathadi buffalo (Maharashtra)
- ❖ Sojat goat (Rajasthan), Karauli goat (Rajasthan) and Gujari goat (Rajasthan);
- ❖ Banda pig (Jharkhand), Manipuri Black pig (Manipur).
  - ✓ Manipuri Black pig is preferred for its taste.
- ❖ Wak Chambil pig (Meghalaya)
  - ✓ Wak Chambil's pork is known for its unique flavour and taste.
- ❖ After including these breeds, total number of registered indigenous breeds is

### 20.7. SPAIN BECOMES EUROPE'S FIRST COUNTRY TO GIVE MENSTRUAL LEAVE



- ❖ The Spanish government approved a historic law granting paid medical leave to women suffering from severe menstrual pain becoming the first European country to do so.
- ❖ These leave facilities are available in a handful of countries including Japan, Indonesia, and Zambia.

## 20.8. UNICEF INDIA: AYUSHMANN KHURRANA NAMED AS NATIONAL AMBASSADOR OF CHILD RIGHTS.

- ❖ In India, Ayushmann Khurrana will represent UNICEF (United Nations International Children's Emergency Fund). The actor's designation as the National Ambassador was announced by UNICEF.

### ABOUT UNICEF

- ❖ UNICEF is an organisation of the United Nations tasked with delivering humanitarian and developmental aid to children all over the world.
- ❖ Formerly known as the United Nations International Children's Emergency Fund in full, UNICEF is now formally known as the United Nations Children's Fund.
- ❖ Headquarters: New York, United States of America.

## 20.9. MAD COW DISEASE

- ❖ Recently, Brazil has halted its beef exports to China after a case of Mad Cow Disease was confirmed in the northern state of Para.

### ABOUT MAD COW DISEASE

- ❖ Also known as **Bovine Spongiform Encephalopathy** (BSE) is degenerative, transmissible, slowly progressive, and a fatal infection that affects the central nervous system of adult cattle.
- ❖ **Causes:**
  - ✓ BSE is caused by a protein called a **prion** normally found on cell surfaces, the normal prion protein changes into an abnormal prion protein that is harmful.
  - ✓ After getting altered, these proteins destroy the nervous system tissue- the brain and spinal cord.
  - ✓ The body of a sick cow does not even know the abnormal prion is there. Without knowing it is there, the cow's body cannot fight off the disease.
- ❖ **Transmission:** A cow gets BSE **by eating feed contaminated with parts** that came from another cow that was sick with BSE.
- ❖ **Symptoms:**
  - ✓ A common sign of BSE in cows is **incoordination**. A sick cow has trouble walking and getting up and may also act very nervous or violent.
  - ✓ It usually takes four to six years from the time a cow is infected with the abnormal prion to when it first shows symptoms of BSE. This is called the incubation period. During the incubation period, there is no way to tell that a cow has BSE by looking at it.
  - ✓ Once a cow starts to show symptoms, it gets sicker and sicker until it dies, usually within two weeks to six months.
- ❖ **Treatment:**
  - ✓ There is no treatment for BSE and no vaccine to prevent it.

## 20.10. AMAZON TO JOIN ONDC.

- ❖ Amazon has announced that it will join the Indian government's ONDC (Open Network for Digital Commerce) platform.
- ❖ In 2022, Microsoft became the first big technology company to join the network with an intention of introducing group buying in the Indian market through social e-commerce.
- ❖ ONDC is an open e-commerce protocol set up by the Ministry of Commerce's Department of Promotion of Industry and Internal Trade (DPIIT).
- ❖ Under ONDC, it is envisaged that a buyer registered on one participating e-commerce site may purchase goods from a seller on another participating e-commerce site.

- ❖ Presently, buyers and sellers have to be on the same app for a transaction which happens through the same platform.

## 20.11. NEW LAYER AT EARTH'S INNER CORE DISCOVERED.

- ❖ Discovered by Australian National University seismologists, the new layer is a solid metallic ball is deep inside inner core of Earth, dubbed as "innermost inner core".
- ❖ It is solid due to high pressure deep within the Earth that stops iron alloy from melting. It is a crystallized structure within inner core's innermost region that is different from outer layer.
- ❖ First hypothesised about 20 years ago, it was identified through data gathered from seismic waves caused by earthquakes.
- ❖ So far, four layers of Earth's structure had been identified. These include:
  1. **Crust:** Topmost or outermost layer of earth which makes up 1% of Earth Volume. It has two parts - thinner Oceanic Crust and thicker Continental Crust.
  2. **Mantle:** Solid/plastic layer of earth which makes up about 84% of Earth Volume. It is divided in two parts - Upper Mantle and Lower Mantle. Uppermost mantle and crust constitute lithosphere.
  3. **Outer core:** Liquid portion of core, composed of 80% iron along with nickel and some other lighter elements.
  4. **Inner core:** Solid portion of core, composed of Iron and nickel with presence of heavy elements like gold, platinum, palladium, silver and tungsten.

CivilsTap Hlmachal

## 21. HIMACHAL NEWS

### 21.1. NOW, EXPERIENCE INUIT LIFE AT MANALI'S HAMPTA VALLEY.

- ❖ The Hampta valley near here has been christened as the Igloo valley.
- ❖ The concept of igloo stay was introduced in 2017 to offer travellers with a chance to live like the Inuit living in the Arctic regions of Alaska and Newfoundland amid the Himalayas.
- ❖ Starting with six igloos, the valley, almost without tourist buzz, now has over 30 snow huts of different shapes and sizes for backpackers from January to February.
- ❖ Most of the igloos, owned by local youth, are in the vicinity of Sethan village, 12 km uphill from Manali, the area known for growing apples.

#### CONCEPTUALISED BY 2 LOCAL YOUTHS

- ❖ Local entrepreneur Vikas Kumar & his friend Tashi Dorjee came up with the Eskimo village concept in the Hampta valley in 2017
- ❖ The stay inside an igloo offers an opportunity to the travellers to experience the life of Inuit people on the edge of wilderness.

### 21.2. WORK BEGINS ON DHAULASIDH HYDEL PROJECT.

- ❖ The concreting work of the dam for the under-construction 66-MW Dhaulasidh Hydro Electric Project started in Hamirpur district.
- ❖ SJVN chairman and MD said, "With the completion of excavation at the dam pit and both river banks, dam concreting work began today. Now, the project has entered an advanced stage of construction."
- ❖ He inaugurated the non-family accommodation for the project employees at Salasi, Hamirpur. The bachelor accommodation has been built at an accelerated pace for the staff posted at the project site. This will enable faster project execution by facilitating 24x7 availability of the staff at the site.

### 21.3. BARSAR TO HAVE FIRE STATION: MLA

- ❖ Barsar town in Hamirpur will soon have a fire station for which an amount of Rs 6 crore has been earmarked. This was stated by Barsar MLA while addressing a gathering at Ralli-Jajri village.
  - ✓ The MLA said that Chief Minister had sanctioned funds for the same.
- ❖ The fire station would be equipped with latest fire-fighting equipment and vehicles.
- ❖ The constituency has vast area under pine forests, which are highly sensitive to fire.

#### ABOUT BARSAR

- ❖ **Barsar** is a historical town which has its roots linked to the Sidh Shri Baba Balak Nath Ji, a Hindu deity located in the Hamirpur district of Himachal Pradesh.
- ❖ Located primarily on the Foothills Of Western Shivalik Range Of The Outer Himalayas on National Highway 503 A , it is a major Business and Educational Hub in the district.
- ❖ Barsar Hilltop overlooks Lake Govind Sagar due South West and The Dhauladhar Himalayas due north.
- ❖ Founded by Rajput Prince as a Princely state, used their clan name Barsar (a clan of rajput) as the name of state.
  - ✓ After separation of India it was merged in India. Now it is also a part of Himachal Pradesh.
- ❖ It also serves as one of five tehsil headquarters in the Hamirpur district.
- ❖ Barsar Hilltop separates Hamirpur to Una District at an elevation of 1015 M above sea level.

### 21.4. EKLAVYA SCHOOLS IN STATE TO GET NEW TEACHERS.

- ❖ Four Eklavya model residential schools opened in the tribal areas of Himachal Pradesh will soon get new teachers. In the Union Budget on Wednesday, it has been announced to fill the posts of 38,800 teachers and supporting staff in Eklavya schools across the country.
- ❖ Eklavya model residential schools have been opened in **Pangi, Bharmour, Nichar and Lahaul** in the state. With the announcement of the Union Finance Minister, the unemployed youth of the state now have the hope of becoming teachers in these schools.
- ❖ Eklavya School has a capacity of 480 students. Students from VI to VIII can study here.

- ❖ Eklavya schools are opened in areas with 50 percent scheduled caste and 20 percent tribal population. Along with studies in these schools, many activities are conducted to promote sports, local art and culture.
- ❖ These schools come under the state governments. The budget is received from the central government for their establishment.

### 21.5. OVER 1.17 LAKH MIGRATORY BIRDS FLOCK PONG DAM RESERVOIRS THIS TIME; 7,000 MORE THAN LAST YEAR.

- ❖ Over 1.17 lakh migratory birds have flocked the Pong Dam wildlife sanctuary in Kangra District of Himachal Pradesh this time, more than 7,000 than last year.
  - ✓ The **Pong Dam**, also known as the **Beas Dam**, is an earth-fill embankment dam on the Beas River in the state of Himachal Pradesh, India, just upstream of Talwara.
- ❖ According to Chief Conservator of Forest (wildlife), the figures were received on January 31 following a two-day count.
- ❖ The teams sighted **Long Tail Duck for the first time** in this Ramsar site. The number of Northern Pintail has increased from 4,500 last year to 15,700 this year. There is also an increase in the number of Bar Headed geese this year.
- ❖ A Ramsar site is a wetland designated to be of international importance under the Ramsar Convention -- an international treaty for the conservation and wise use of wetlands.
- ❖ The lake may have more avian visitors in the coming days as these Siberian birds are returning from south India and they tend to take a break at the Pong Dam reservoirs.
- ❖ The reason for this increase in the number of birds at the site, is that the birds get plenty of food here and they feel more protected now as not a single poaching incident has been reported in a year.

### 21.6. KULLU'S GIMNER SINGH SELECTED IN INDIAN TEAM FOR PARAGLIDING WORLD CUP.

- ❖ Gimner Singh, who belongs to Kullu district of Himachal Pradesh, has been selected for the Paragliding World Cup to be held in Thailand.
  - ✓ The competition will be held in Nongkhai region of Thailand from February 9 to 20.
  - ✓ In this, apart from Gimner Singh, Ladakh's Sonam and Sikkim's Arjun Rai will also be a part of the Indian team. Gimner Singh is currently working as an instructor in the Atal Bihari Vajpayee Mountaineering Institute.
- ❖ In the Asian Paragliding Championship held in December last year, Gimner Singh participated in the Himachal team and won a bronze medal.
- ❖ International player Gimner Singh said that 80 paragliding pilots are participating in the Paragliding World Cup.

### 21.7. 2 RARE BIRD SPECIES SIGHTED AT RENUKA JI WILDLIFE SANCTUARY.

- ❖ Two new feathery visitors, Baikal Teal and Orange-Bellied leafbird, have been sighted at Renuka Ji wildlife sanctuary during this winter migratory bird season. This is the first such sighting of two rare birds in Himachal Pradesh.

#### BAIKAL TEAL

- ❖ Baikal Teal is larger than the common teal with characteristic green nape and yellow black auricular, neck and throat
- ❖ The habitat preference of this species is wetland and marshy areas where it can feed on microflora in lake ecosystem
- ❖ Baikal Teal breeds in the far-east on the edges of Tundra and has made its way through the Asian flyway to reach Renuka Ji wetland.
- ❖ At a time when environmental degradation is posing a threat to the flora and fauna, sighting of new birds points to the changing habitat of the birds.
- ❖ The sighting of this species is rare in India. This is the first record of the bird in the state. The habitat preference of this species is wetland and marshy areas where it can feed on microflora in lake ecosystem.
- ❖ This exercise is conducted every year during the winter when the birds migrate and would continue till the month-end.
- ❖ **Orange-bellied leafbird** is the other species sighted for the first time in the state. Its characteristic habitat is in the North-East India. As the bird feeds on nectar, it was spotted on the bottlebrush plant.
- ❖ Siberian rubythroat, green-tailed sunbird, small niltava, fire-tailed sunbird and water rail are some of the bird species spotted for first time in Renuka Ji Lake and the wildlife sanctuary in the recent past.

### 21.8. INDIA'S 1ST HYDROGEN TRAIN LIKELY ON SHIMLA-KALKA RAIL LINE BY DEC

- ❖ The country's first hydrogen-powered train may run on the heritage Kalka-Shimla railway line by the end of this year. The Union Railway Minister had made announcement to this effect recently.
- ❖ The train will run on hydrogen fuel, which is a green fuel with zero carbon emission. Three hydrogen gas stations will be established at Shimla, Barog and Kalka railway stations. As per the government, the hydrogen train project has been expedited and is expected to be completed by December this year.
- ❖ After it is launched on the Kalka-Shimla railway line, the project will be expanded to other locations in the country.
- ❖ The train with seven coaches is expected to run on the line by the end of this year.
- ❖ The hydrogen train will run on the narrow gauge line at a higher speed of 27 kmph from the present train's speed of between 22 kmph and 25 kmph. It will also give a fillip to tourism in the state.

### 21.9. MEASURES AFOOT TO KEEP SHINKU LA OPEN IN WINTER

- ❖ The Border Roads Organisation (BRO)'s Project Yojak has been able to keep the Shinku La Pass mostly open for traffic round the year. Besides, under the project the work on important infrastructure projects has been continuing even during the winter.
- ❖ Project Yojak constituted by the BSF is focused on making the Manali-Leh road operational via Darcha-Padum-Nimu road round the year.
- ❖ The snow-laden Shinku La Pass, situated at an altitude of 16,703 feet, remains closed during the winter from October to April, snapping link to the Zaskar valley in Ladakh. The valley is connected to the mainland through Leh or Manali and connectivity via Leh is unthinkable in the winter due to the extreme cold wave conditions.
- ❖ The Darcha-Padum-Nimu road is strategically very important to connect the border areas of Leh and Ladakh with the mainland. The BRO is engaged in the task of double laning Nimu-Padum-Darcha road. This is one of the toughest roads to traverse as it often receives heavy snowfall ranging from 15 feet to 20 feet at various stretches. Besides, the area is prone to avalanches.

### 21.10. HIMACHAL PRADESH GOVT STARTS U-WIN PORTAL AS PILOT PROJECT IN SOLAN AND SIRMAUR DISTRICTS

- ❖ With a view to increase the immunity of children and prevent them from various diseases, the government in Himachal Pradesh has decided that the vaccination in the state would now be implemented through U-WIN portal that has been started by the government as a pilot project in **Solan and Sirmaur districts**. Complete information about maternal and child vaccination in the state will be available on this portal.
- ❖ Under this centre sponsored project, these two districts have been included in selected districts across the country.
- ❖ This portal has been developed on the lines of CoWIN portal.
- ❖ The data of all the vaccination beneficiaries of the state will be available in the portal. Complete information about vaccination from time to time after the birth of the child will be available on this portal.
- ❖ This portal is also being linked directly to the labour room, so that correct and accurate information is available.
- ❖ All government and private hospitals are also being linked with the U-WIN portal.
- ❖ Himachal Pradesh has an estimated target of vaccinating more than one lakh new born babies and about 1.27 lakh pregnant women annually.
- ❖ For this purpose, there are a total of 390 cold chain points in the state. As a pilot project, 42 cold chain points of both districts will be covered under the U-WIN portal launched in Solan and Sirmaur districts.
- ❖ UWIN Portal is a digital solution to facilitate tracking of every pregnant woman and child for vaccination.
- ❖ At present, an estimated 43,000 beneficiaries will be benefited annually through the U-WIN portal launched in these two districts. An estimated 11,000 children and 13,000 pregnant women in the age group of 0-1 years will be benefited in district Solan. While in district Sirmaur, an estimated 9100 children and 10 thousand pregnant women in the age group of 0-1 years will be benefited.
- ❖ The special feature of the portal is that after the completion of the vaccination process, the beneficiary will also get the vaccination certificate. To get the beneficiary registered in the U-WIN portal, Aadhaar card and mobile number will have to be provided at the vaccination center.

### 21.11. WATER RELEASE: MANDI'S PANDOH DAM AUTHORITIES 'FLOUTING' ORDER.

- ❖ Less than 15 per cent water release from the Pandoh dam and reservoir of power project at Barot has irked the environmentalists, who are concerned about the conservation of nature in the district.
- ❖ Impacting ecology

- ❖ The dam authorities at Pandoh and Barot in Mandi district are constantly flouting the order of the NGT.
- ❖ As per the NGT order, it is a must for dam authorities to release at least 15% water from its reservoirs regularly in stream to maintain the e-flow. Less water release adversely impacts nature and aquatic life.
  - ✓ Environmental flow (e-flow) describes the quantity, timing, and quality of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and wellbeing that depend on these ecosystems.
- ❖ The environmentalists have requested the dam authorities to release water on many occasions, but their requests have gone unheeded. The environmentalists have also requested the HP Pollution Control Board to take action against the dam authorities.
- ❖ Unfortunately, the board also did not take any action.

### 21.12. SUJANPUR HOLI FEST FROM MARCH 5

- ❖ The national-level Holi festival of Sujanpur Tira in Hamirpur district will be celebrated from March 5 to 8.
- ❖ Hamirpur Deputy Commissioner (DC) reviewed the preparations for the festival by holding a meeting with officials of the departments concerned recently.

### 21.13. DICLOFENAC THREAT TO 7 VULTURE SPECIES.

- ❖ As many as seven species of vulture are facing the threat of extinction in the state due to poisoning by diclofenac.
- ❖ Diclofenac has been banned for veterinary use since 2006, but there is no move to ban other such salts like aceclofenac and ketoprofen as of now.
- ❖ As per the International Union of Conservation of Nature (IUCN) findings in 2013, there were seven types of vulture that were facing threat to their lives, owing to poisoning by diclofenac.
- ❖ Among these, three species have been categorised as **near-threatened**, which are close to being at the high risk of becoming extinct. They comprise bearded **Himalayan griffon**, **Bearded vulture** and **cinereous vultures**.
- ❖ Another specie named **Egyptian vulture** is **endangered** and faces the risk of being extinct.
- ❖ Three others – **white-rumped, slender-billed and red-headed** — are **critically endangered** as they face extremely high risk of extinction in the wild.
- ❖ Diclofenac was toxic even in small doses to the vultures. “It causes kidney failure and leads to the accumulation of uric acid in the bird’s blood and crystallising around their organs. The vultures are exposed to the drug when they consume the carcasses that are treated with diclofenac shortly before the animal’s death. They die within days of consuming it.
- ❖ The drug is also used by humans for treating aches and pains as well as problems with joints, muscles and bones.
- ❖ The Ministry of Environment, Forests and Climate Change has launched a Vulture Action Plan 2020-25. It aims to step up conservation measures. It is supposed to set up a mechanism to ensure that toxic drugs other than diclofenac are also banned for veterinary use.

### 21.14. IIT-MANDI DEVELOPS TECH TO MAKE ARMY EQUIPMENT INVISIBLE TO RADAR.

- ❖ Researchers at the Indian Institute of Technology (IIT) have created an artificial structure/material that can make stealth vehicles and well as covert establishments less visible to a radar.
- ❖ This material can absorb a wide range of radar frequencies, irrespective of the direction from where signals hit the target. It can also be used to cover windows or glass panels of stealth vehicles and covert establishments that must be invisible to radars.
  - ✓ Being invisible to radars is a crucial defence strategy and the ability to evade radar detection can reduce chances of being targeted by enemy weapons.
- ❖ Any technology that makes things invisible to radars can also be used in the commercial sector to reduce radiation leakages from buildings and make them more secure. For example, invisibility to radar can also be used in private or covert establishments for privacy.
- ❖ The material has been developed using the technology based on frequency selective surface (FSS) that absorbs a wide range of frequencies used in radars, which makes surface invisible to radars.

### 21.15. KANGRA ARTIST'S PAINTINGS EXHIBITED IN GERMANY.

- ❖ Mukesh Dhiman, an artist of Pathiar village in Kangra district, who specialises in Kangra style of painting, recently displayed his miniature paintings at an exhibition in Frankfurt city of Germany.

- ❖ Kumar is part of the Indian delegation that had gone to Germany under the aegis of the Union Ministry of Textiles. The ministry had organised an exhibition-cum-demonstration of the traditional Indian art in Germany that concluded today.

#### ABOUT KANGRA STYLE OF PAINTING

- ❖ The name Kangra style is given to this group of painting for the reason that they are identical in style to the portraits of Raja Sansar Chand of Kangra. Paintings of the Kangra style are attributed mainly to the Nainsukh family.
- ❖ Some of the Pahari painters found patronage in the Punjab under Maharaja Ranjit Singh and the Sikh nobility in the beginning of the 19th century and executed portraits and other miniatures in a modified version of the Kangra style which continued till the middle of the 19th century.

#### SALIENT FEATURES

- ❖ The delicacy of drawing and quality of naturalism are the stand-out features of this school of art
- ❖ The Kangra style is by far the most poetic and lyrical of Indian styles marked with serene beauty and delicacy of execution.
- ❖ Distinctive is the delineation of the female face, with a straight nose in line with the forehead, which came in vogue around the 1790s, is the most distinctive feature of this style.
- ❖ Most popular themes that were painted were the Bhagvata Purana, Gita Govinda, Nala Damayanti, Bihari Satsai, Ragamala and Baramasa

#### 21.16. PADMA SHRI DR GULERIA IS BILASPUR AIIMS CHIEF.

- ❖ Dr Randeep Guleria, professor and HoD, department of pulmonary medicine and sleep disorders, at AIIMS, New Delhi, has been appointed the president of AIIMS-Bilaspur recently .
- ❖ Dr Guleria was conferred with Dr BC Roy Award in 2014 and the Padma Shri in 2015.
- ❖ He is the first Indian to get a Doctorate of Medicine (DM) in pulmonary and critical care medicine. He joined AIIMS, New Delhi, in 1992 as an assistant professor in the department of medicine and was subsequently promoted to the posts of associate professor, additional professor and professor.
- ❖ The department of pulmonary medicine and sleep disorders was created by him in 2011.

#### 21.17. ADEQUATE PREY MUST TO CONSERVE SNOW LEOPARDS: STUDY

- ❖ Prey-centric approach is a must to conserve snow leopards in Himachal Pradesh, reveals a study conducted by the researcher of Ashoka University in Sonapat, Haryana.
- ❖ The snow leopard population is healthier in regions that have a higher prey base having, among others, ungulates (blue sheep, Himalayan tahr and Himalayan ibex).
- ❖ The university conducted this study in collaboration with the state Forest Department in the tribal district of Lahaul and Spiti.
- ❖ Snow leopards are the flagship species for conservation. The first photographic documentation of the snow leopard done in 1975 highlighted this magical beast's rare and elusive nature. Studying the distribution and population of snow leopards remains a challenge.

#### ABOUT SNOW LEOPARD (PANTHERA UNCIA):

- ❖ Snow leopards act as an indicator of the health of the mountain ecosystem in which they live, due to their position as the top predator in the food web.
- ❖ Habitat: Mountainous regions of central and southern Asia. In India, their geographical range encompasses:
  - ✓ Western Himalayas: Jammu and Kashmir, Himachal Pradesh.
  - ✓ Eastern Himalayas: Uttarakhand and Sikkim and Arunachal Pradesh.
- ❖ Hemis National Park is the biggest national park in India and also has a good presence of Snow Leopard.

#### PROTECTION STATUS:

- ❖ The snow leopard is listed as **Vulnerable** on the IUCN-World Conservation Union's Red List of the Threatened Species.
- ❖ In addition, it is also listed in Appendix I of the Convention on International Trade of Endangered Species (CITES).
- ❖ It is listed in Schedule I of the Indian Wildlife (Protection) Act 1972.
- ❖ It is also listed in the Convention on Migratory Species (CMS), affording the highest conservation status to the species, both globally and in India.
- ❖ It is also protected by several national laws in its range countries.

### **21.18. DUMPING OF BAIJNATH WASTE IN BINWA RIVER A WORRY.**

- ❖ The large-scale dumping of garbage by Baijnath Municipal Council in Binwa, a tributary of the Beas, has become a cause for concern for the health authorities.
- ❖ The river is a major source of drinking water in the lower areas of Baijnath. The Jal Shakti Department lifts its water for half a dozen drinking water supply schemes feeding 50 villages.
- ❖ The civic body threw waste in the river as there was no place for garbage dumping in the town as per Executive Officer, Baijnath MC
- ❖ A new piece of land for the garbage dumping site is being identified since the existing one is embroiled in dispute and the final decision of the High Court on it can take time. Salem Aazam, SDM, Baijnath

### **21.19. HIMACHAL'S FIRST ECO-FRIENDLY STP TO BE CONSTRUCTED IN MANALI.**

- ❖ The state's first eco-friendly sewage treatment plant (STP) will be set up in the tourist hotspot of Manali.
- ❖ The sewerage and drinking water schemes worth Rs 369 crore have been approved to connect the town and seven panchayats in the suburbs of Manali City with the sewer system. This scheme will be built under the sequential batch reactor system.
- ❖ With this system, the amount of pollution in the STP will be negligible. So far, STPs have been built in the state with a simple technology. The biochemical oxygen demand of the ordinary treatment plant remains up to 30 ppm. However, the biochemical oxygen demand of this STP shall not exceed 10 ppm.
- ❖ A tender worth about Rs 100 crore has been opened for laying the sewerage network in the first phase and the process is underway to award the job soon. The drinking water line will be completed in the second phase and the STP work will be carried out in the third phase. According to the authorities of the Jal Shakti Department, the entire project will take around three years for completion.

### **21.20. GOVIND SAGAR LAKE NEW DESTINATION FOR MIGRATORY BIRDS.**

- ❖ The Govind Sagar Lake in Bilaspur district has emerged as the new destination for migratory birds. It has also become a popular attraction for tourists travelling from Delhi, Chandigarh and Punjab to Kullu, Manali and Keylong.
- ❖ The Bombay Natural History Society had recently conducted the first bird census at the lake during its survey for a comprehensive management plan for the conservation and protection of the ecology in and around the lake.
- ❖ It was reported that 3,101 migratory birds of 41 species had landed in the lake area for the first time this year. The bird species spotted near the lake included bar-headed geese, northern pintails, common pochard, river tern, little cormorant, greater cormorant, ruddy shelduck, gadwall, spot-billed duck, northern shoveler, Eurasian wigeon, black-winged stilt, brown-headed gull, river lapwing, little grebe, red-winged lapwing, pallas's gull, etc.
  - ✓ THESE migratory birds came from North America, Austria, Myanmar, Thailand and several European countries.
- ❖ DFO, Wildlife, said several migratory birds were spotted in the lake this year and their count was expected to gradually increase in the coming years. The Forest Department may encounter new challenges in protecting these migratory birds from poachers.
- ❖ The landing of migratory birds in the lake would add another attraction to the tourism in the district. He said the administration had proposed to add birdwatching to the list of activities to be available at the hanging restaurant to be built on the lake.

### **21.21. 34-YEAR-OLD FROM KULLU FIRST STATE WOMAN TO SCALE MT KILIMANJARO**

- ❖ Rama Thakur (34) of Shuru village in Manali subdivision in Kullu district has brought laurels to the country by scaling 5,685-m Mount Kilimanjaro, the highest peak in Africa.
- ❖ Rama has become the first woman from the state to conquer Mount Kilimanjaro on February 5.
- ❖ Rama is working as a leadership trainer at the Indus School of Leadership, Bengaluru, from where her expedition started.
- ❖ She had earlier conquered Mount Dosti, Mount Unam and Mount Deo Tibba. She is also the vice-president of the Himalayan Women's Adventure Association of Manali.

### **21.22. SHIV PRATAP SHUKLA ON BECOMES NEW HP GOVERNOR.**



- ❖ Shiv Pratap Shukla was appointed as the new Governor of Himachal Pradesh on Sunday.
- ❖ Shiv Pratap Shukla will be the 29th Governor of Himachal Pradesh.
- ❖ Shiv Pratap Shukla is a resident of Rudrapur in the Gorakhpur district of UP.
- ❖ He is former MoS for Finance and has been a four-time MLA, three-time Union Minister and a member of the Rajya Sabha. Shukla started his political journey with Akhil Bharatiya Vidyarthi Parishad.

### **21.23. HIMACHAL PRADESH CM LAYS DOWN FOUNDATION OF 'HIMACHAL NIKETAN' IN DELHI**

- ❖ 'Himachal Niketan', a five-story building will be constructed in Dwarka, Delhi for Rs 57.72 crore. There are two VIP rooms and 36 general rooms exclusively for the students with all facilities besides 40 other general suites.
- ❖ In Himachal Niketan, there will be three dormitories for the staff. It will also have a facility to park around 53 vehicles and 87 two-wheelers in the basement.
- ❖ The Himachal Niketan will consist of 81 rooms in total.
- ❖ The Chief Minister informed that this would be an additional facility apart from the existing Himachal Bhawan and Himachal Sadan, offering accommodation facilities to the Himachalis, especially students coming for various competitive examinations held in New Delhi.
- ❖ The PWD has been directed to ensure quality construction and that the building would be completed by 2025, and the PWD Minister would also review the progress of construction at regular intervals so that timely construction could also be ensured.

### **21.24. CM CONGRATULATES POLICE BAND**

- ❖ Chief Minister has congratulated "Harmony of The Pines", Himachal Pradesh Police orchestra, for being selected for performing at the prestigious Dadasaheb Phalke International Film Festival (DPIFF) Awards to be held in Mumbai on February 20.
- ❖ The CM wished success to Harmony of The Pines in its future endeavours.

### **21.25. UNA ADMN GEARS UP FOR HOLA MOHALLA FAIR**

- ❖ The district administration is making elaborate preparations to ensure the peaceful conduct of the upcoming Hola Mohalla fair at the Dera Baba Vadbhag Singh shrine in Mairi village, scheduled to be held from February 27 to March 9 this year.
- ❖ About 5 lakh devotees, mostly from Punjab, visit the shrine during the fair every year.
- ❖ Deputy Commissioner said the shrine and its periphery will be divided into 10 sectors, each under the command of a sector magistrate and a sector police officer.

### **21.26. 300 LIKELY TO TAKE PART IN SNOWMARATHON IN SISSU.**

- ❖ A snow marathon will be organised at Sissu in Lahaul and Spiti district on March 12.
- ❖ The organisers of the event met Lahaul and Spiti MLA to chalk out a strategy for the marathon, which will be organised at an altitude of around 10,000 ft.
- ❖ Over 300 participants from different states will take part in the marathon. The move is aimed at promoting winter sports in Lahaul and Spiti, which receives heavy snow during winter months.
- ❖ The Rich India organisation has evinced interest in organising the marathon.
- ❖ After the opening of the Atal Tunnel on the Manali-Leh highway, Lahaul and Spiti district has become a tourist hub.

### **21.27. TRADITIONAL MASK DANCE ENTHRALS TOURISTS.**

- ❖ The Fagli festival is being celebrated with great fervour in the rural areas of the Tirthan valley in Banjar subdivision of KULLU.
- ❖ It is being celebrated in Pekhadi, Nahin, Tinder, Dingcha, Fariyadi, Sharchi, Basheer and Kalwari villages of the valley.
- ❖ Mask dance organised during the 'Phalgun Sankranti' in different villages of the valley from February 13 to 15 is one of the major attractions of the festival.
- ❖ Locals believe that the mask dance, performed by a few selected people, drives out demonic forces from the area and brings happiness and prosperity.

- ✓ **The Tirthan valley** is famous for the Great Himalayan National Park and trout fish. Small but beautiful villages situated in the remote hilly areas, rivers and waterfalls, forests and snow-capped mountain ranges add to the beauty of the valley.
- ❖ Tourists from outside states like West Bengal, Punjab, Delhi and Rajasthan were left spellbound by the ancient tradition of mask dance.

### 21.28. ADMINISTRATION GEARS UP FOR DEOTSIDH FAIR.

- ❖ The Baba Balak Nath Trust in Hamirpur is poised to provide best facilities to pilgrims visiting the Deotsidh temple during the fair, which is held in 'Chaitra Mas' and scheduled to start from March 12.
- ❖ A review meeting of the trust regarding preparations and arrangements for the fair was held recently.

### 21.29. KOL DAM COLONIES TO GET BASIC AMENITIES

- ❖ The colonies established by the National Thermal Power Corporation (NTPC) around Kol Dam in Bilaspur district to settle displaced persons will soon get all basic facilities.
- ❖ This was stated by Deputy Commissioner while addressing people after visiting the colonies established in Jamthal, Chamyon, Harnoda and Kasol villages.
  - ✓ These colonies were established to rehabilitate villagers who had to vacate their houses for the construction of Kol Dam and its reservoir.
- ❖ The Kol dam Hydroelectric Power Plant, owned and operated by India's biggest power utility National Thermal Power Corporation (NTPC), is located on the Satluj River in the Bilaspur District of Himachal Pradesh, India.

### 21.30. HIMACHAL ADJUDGED BEST FOR 'GREEN' EFFORTS

- ❖ The state has bagged the Best State Award and the GSP Gold Partner Award by the Centre for Science and Environment, New Delhi, under the Green School Programme (GSP).
- ❖ Solan has been selected for the Best District Award
- ❖ Govt Senior Secondary School, Hingiri, Chamba, has been adjudged best in the Land Section Award
- ❖ Two teachers from the state have also been selected for the GSP Ambassador Award
- ❖ The HP Council for Science, Technology and Environment (HIMCOSTE) as a **nodal agency** has established 3,000 eco-clubs in schools and 100 colleges under the National Green Corps (NGC) programme. It provides opportunities to the schoolchildren to redirect their consciousness and actions to create a more sustainable planet.
  - ✓ Innovative environmental projects such as rainwater harvesting development of herbal garden on the school campus, solid waste management (waste-to-wealth concept), beautification of the campus, setting up of science and environment model, demonstration lab for the conservation and protection of environment have been initiated in the eco-clubs. The council is also implementing plastic waste buy back scheme through 100 eco-club schools (ECS).

### 21.31. 300-YR-OLD KANGRA WATER SOURCE DECLARED NON-POTABLE

- ❖ A nearly 300-year-old natural drinking water source situated in the heart of Palampur town in Himachal Pradesh's Kangra district has been declared non-potable after its samples were found "highly contaminated" during chemical examination.
- ❖ The testing at the source, called '**Dohroo Ki Babli**', was done after pungent smell was reported in water by the residents, around 1,000 of whom were dependant on it for drinking and other needs.
- ❖ IPH Dept officials fear sewage seepage into the water source from septic tanks of houses
- ❖ It is said the source withstood the worst of summers and even the 1905 Kangra earthquake that had claimed more than 20,000 lives.
  - ✓ Before 1960, it was the sole water source for Palampur town and the residents would earnestly maintain it.

### 21.32. DIST-LEVEL FAIR BEGINS AT HISTORIC LORD SHIVA TEMPLE IN INDORA.

- ❖ The three-day district-level Shivratri fair opened at historic Lord Shiva Temple, Kathgarh in Indora sub division of Kangra district recently.
- ❖ Thousands of devotees from Punjab, Himachal Pradesh and Jammu throng the temple to pay their obeisance.

- ❖ Kathgarh Mahadev Temple is located in Kangra district.
  - ✓ Situated on the border of Punjab and Himachal Pradesh, this is the only Shiv temple in the world, where the Shivling is divided into two parts.
  - ✓ It is believed that these two forms of Shiva automatically separate and then merge.
  - ✓ One is worshiped as Lord Shiva and the other part is worshiped as Devi Parvati.
  - ✓ The distance between two parts of Shivling automatically increases according to the planetary constellations. In summer this form splits into two parts and in winter it assumes one form.
  - ✓ This old temple, built in Mughal style, comprises 6 feet tall and 5 feet round 'Shivalinga'.

### **21.33. 24x7 DD HIMACHAL CHANNEL LAUNCHED.**

- ❖ Union Minister for Information and Broadcasting (I&B) Anurag Thakur launched DD Himachal channel here today. The channel will broadcast programmes round the clock.
- ❖ DD Himachal had started operations in 1995 with a 30-minute programme, which was gradually increased to four hours a day.
- ❖ the channel would help the state show its art and culture, heritage and other attractions to the rest of the country and the world.
- ❖ The channel will be available on DTH platform. People would be able to see this channel in any part of the country.
- ❖ The 24x7 channel would help boost tourism in the state by showcasing various places of tourist interest available in the state.

### **21.34. A FIRST: STATE POLICE TO HOST NATIONAL WATER SPORTS TOURNEY**

- ❖ The HP Police will host the 22nd All-India Water Sports Championship from March 2 to 6 at Androli in Una district. The state police will be organising the national tournament for the first time.
- ❖ This year the **theme** is, 'Experience the Waters of Himachal'.
- ❖ The teams in both men and women categories will compete in rowing, canoeing and kayaking competitions.
  - ✓ Over 400 participants from 51 state and central paramilitary organisations are likely to compete in the championship.

### **21.35. TREKKING TRAILS IN KULLU DISTRICT TO BE REDEVELOPED**

- ❖ The Kullu Zila Parishad will develop various religious and scenic treks here under the Remote Area Development Plan.
- ❖ The trekking routes to Kheerganga, Shangal, Serolsar, Shakti, Maror, Shrikhand, Bijli Mahadev, etc. will be redeveloped to promote tourism in these regions with the aim of generating employment opportunities for the masses.
- ❖ Kheerganga in the Parbati valley attracts a large number of pilgrims and tourists. The place has hot water springs. White algae present in the water is believed to cure many skin diseases.
  - ✓ However, the trek is very risky at some points and not very commuter friendly.
  - ✓ The trek goes up to uninhabited Mantalai and further to the Pin Parbati Pass, but this tough adventure is undertaken only by well-equipped professionals.

### **21.36. ACTOR VIDYUT JAMMWAL GIFTS FILMFARE AWARD TO ALMA MATER IN DAGSHAI**

- ❖ Bollywood actor Vidyut Jammwal presented the Filmfare award for the "best male debut" that he had received in 2012 to his alma mater, Army Public School, Dagshai, during an alumni meet held recently.
  - ✓ Jammwal won the award for his first Hindi film 'Force'.
- ❖ Jammwal passed out from the school in 1996.

### **21.37. HIMACHAL PRADESH TO BECOME FIRST STATE IN INDIA TO HAVE ORGANISED CULTIVATION OF MULETHI.**

- ❖ For the first time, Himachal Pradesh (HP) has begun the commercial cultivation of liquor ice (Mulethi) with the distribution of planting material among the farmers by the Council of Scientific and Industrial Research (CSIR)- Institute of Himalayan Bioresource Technology (IHBT).
- ❖ Mulethi fetches high demand in India which is not only used as a spice but in ayurvedic medicines also due to its medicinal properties, presently it is largely imported from other countries.

**ABOUT MULETHI**

- ❖ Mulethi is a perennial shrub having sweet roots due presence of glycyrrhizin, which is 50 times sweeter than sucrose and it is used as a natural sweetener in herbal medicines, flavouring in candies and tobacco. It is also used in traditional medicine against treating chest and lung diseases etc.
- ❖ Mulethi is grown mainly in Afghanistan, while minor producing countries include Pakistan, China, Nepal and India.
- ❖ India imports 8047 tonnes of liquorice annually from Afghanistan, China and Nepal.
- ❖ Realising the large import of liquorice in the country, it was envisioned to extend its production area through initiating organized cultivation after identifying the potential areas in HP The districts of Hamirpur, Bilaspur, Kangra, Una, Solan and Sirmour in HP have potential areas for its cultivation.

**21.38. FOR MORE JOBS, HIMACHAL GOVT TO INVEST IN WATER SPORTS, ADVENTURE TOURISM.**

- ❖ The state government is planning to generate employment opportunities and boost the economy by strengthening the tourism sector in the state.
- ❖ The proposed 'tent city' at the Dhauladhars would have around 200 camps, which would be equipped with luxury and comfort elements.
- ❖ The government will also enhance the water sports facilities at the reservoirs of dams such as Chamera Dam in Chamba and Bhakra Dam in Bilaspur.
- ❖ The government will also promote mountain biking, golf, hot-air ballooning, heli-skiing, winter games such as snow marathon and ice hockey. It will also ensure basic amenities at the Bir-Billing paragliding site.
- The government will also develop 25 sites as tourist attraction places under the Vibrant Village Programme.

**21.39. TIGER CAUGHT ON CAMERA IN PAONTA SAHIB PARK.**

- ❖ Wildlife officials have caught the image of the wild cat on camera traps inside the Simbalbara National Park.
- ❖ It's for the first time that a tiger has been captured on camera traps in the state. The image confirms the presence of a tiger in the national park, which is a great news.
- ❖ The wildlife staff had set up camera traps to confirm the presence of the tiger when the pugmarks were spotted a month ago.
- ❖ It is believed the tiger had arrived at the Simbalbara National Park from the Rajaji National Park by crossing the Yamuna over a month ago.
- ❖ The fact that it hasn't gone back is a great news for the Simbalbara National Park as it will enhance the area's biodiversity.
- ❖ The wild cat could be using the Simbalbara National Park and the adjoining Kalesar National Park as his territory.

**ABOUT THE PROTECTED AREAS**

- ❖ Simbalbara National Park is a national park in India, located in the Paonta Valley of Sirmour District, Himachal Pradesh, along its border with Haryana. It is also known as Col. Sher Jung National Park.
- ❖ Kalesar National Park and adjacent Kalesar Wildlife Sanctuary are protected areas in Yamunanagar district of Haryana state.
- ❖ Kalesar National Park was established in 2003.
- ❖ Kalesar National Park and Kalesar Wildlife Sanctuary are contiguous to Simbalbara National Park in Himachal Pradesh and Rajaji National Park in Uttarakhand.

**21.40. LOSAR FESTIVITIES IN DHARAMSALA**

- ❖ Tibetans-in-exile celebrated Losar (Tibetan New Year 2150), at the Dalai Lama temple in McLeodganj, Dharamsala, on 21<sup>st</sup> Feb.
- ❖ Prayers by monks & performance by artistes of Tibetan Institute of Performing Arts marked the festivities.
- ❖ The Dalai Lama said, "I am hopeful that Losar will be pleasant, joyful & comfortable for us all, not only for those of us in exile, but also for our fellow Tibetans throughout the three provinces of the Land of Snows."

**21.41. PONG WETLAND TO BE TOURISM HUB**

- ❖ The state government is all set to harness the tourism potential of the Pong wetland, a Ramsar site, situated in the lower Kangra hills.

- ❖ Water sports activities will be started here to attract more tourists.
- ❖ The Centre has approved Rs 145-crore Pong Lake Ecotourism Development Project of the Asian Development Fund (ADB) for promoting tourism in the wetland area.
- ❖ Another Rs 67-crore tourism project was also under the Centre's consideration, which was likely to be cleared soon.

#### **ABOUT PONG DAM**

- ❖ The Pong Dam, also known as the Beas Dam, is an earth-fill embankment dam on the **Beas River** in the Kangra district in Himachal Pradesh.
- ❖ The purpose of the dam is water storage for irrigation and hydroelectric power generation.

#### **21.42. HUNDREDS OF DEITIES TAKE PART IN SHIVRATRI FAIR PROCESSION**

- ❖ Hundreds of deities took part in second Shobha Yatra of the week-long international Shivratri fair in Mandi.
- ❖ Devotees paid obeisance to the presiding deity of this event- Raj Madhav on the temple premises in Mandi town.
- ❖ Hundreds of deities joined the Shobha Yatra with their musical instruments.
- ❖ The fair is a symbol of our ancient culture and civilization and the International Shivratri festival celebrated in Mandi has its own identity.
- ❖ Dev Samagam (deities' confluence) is a unique festival in which devotees got an opportunity to have a glimpse of deities in such a large number at a single place.
- ❖ People come to know about the traditional culture of the town known as "Chhoti Kashi", where 81 temples of Lord Shiva are located.

#### **21.43. KAPIL APPOINTED ADVISER (INFRA) TO CHIEF MINISTER.**

- ❖ The government has appointed Anil Kapil as Adviser (Infrastructure) to Chief Minister on co-terminus basis.
- ❖ He will also advise the HP Infrastructure Development Board.
- ❖ Kapil has worked with 15 Finance Secretaries in the state in different capacities with the HRTC, the HPRIDC, the HPIDB, etc.
- ❖ He managed various infrastructure projects for the state as project and contract management expert.

#### **21.44. DHARAMSHALA TO HOST G20 SCIENCE AND TECHNOLOGY DEPARTMENT MEETING IN APRIL.**

- ❖ The G20 science and technology department meeting is proposed to be held at Dharamshala in Kangra district on April 19-20 in which about 70 delegates from across the world, including India, will participate.

#### **21.45. NERI COLLEGE TO BOOST AVOCADO CULTIVATION**

- ❖ College of Horticulture and Forestry, Neri, near Hamirpur, is poised to promote the cultivation of avocado in lower reaches of the state.
- ❖ The college has successfully produced the fruit on campus and also developed a nursery of the exotic fruit.
- ❖ Scientists of the institute have distributed over 700 saplings of avocado to farmers in the region for field trial this year.
- ❖ Avocado was introduced in India in 20th century and is currently priced at an average cost of Rs 1,000 per kg. Once successful in field trial, it can become a major cash crop for the state farmers.

#### **21.46. GURU DRONA PHYSIO AWARD FOR SUNDERNAGAR INSTITUTE LECTURER**

- ❖ Dr Pradeep Pahwa, a lecturer in the department of physiotherapy at the Composite Regional Centre (CRC) for Skill Development, Rehabilitation and Empowerment of Persons with Disabilities, Sundernagar, has been conferred with Guru Drona Physio Award.
- ❖ Dr Pahwa, a physiotherapy practitioner, was honoured for his contribution to the treatment of persons with disabilities in HP and its adjoining states.
  - Recently, a tele-physiotherapy treatment has been introduced at the CRC, Sundernagar, to give therapeutic facilities to persons with disabilities in the remote areas of the state.

### 21.47. STATE GETS RS 225 CR FOR HAROLI BULK DRUG PARK

- ❖ The state government has received the first instalment of grant-in-aid of Rs 225 crore from the Department of Pharmaceuticals of the Central Government for the development of common infrastructure for the bulk drug park at Haroli in Una district.
- ❖ The grant-in-aid has been given under the scheme guidelines for the promotion of the bulk drug park scheme notified by the Department of Pharmaceuticals of the Union Ministry of Chemical and Fertiliser.

### 21.48. SJVN BEST PERFORMING HYDROPOWER UTILITY

- ❖ The SJVN (Satluj Jal Vidyut Nigam) has bagged the Central Board of Irrigation and Power (CBIP) award for best performing utility in the hydropower sector.
- ❖ The award is in recognition to the outstanding contribution made to nation building by successfully executing and operating mega hydropower stations — 1,500 MW Nathpa Jhakri station and 412 MW Rampur station — in the state.
  - ✓ The Rampur station is being successfully operated in tandem with the country's largest Nathpa Jhakri hydropower station.
- ❖ As a result of the meticulously followed annual plant maintenance schedule using the latest technology, both the power stations have generated more than 9,000 million units during the past three years against the combined design energy of 8,490 million units.

### 21.49. CHAMBA TRADITIONAL CRAFT

- ❖ Chamba district is home to rich heritage of traditional crafts with many craftspersons are earning their livelihood through the businesses related to Chamba 'rumal', miniature painting, sculpture, wood art, Chamba 'chappal' and Chamba 'thaal'.

#### PROJECT 'CHAMBYAL'

- ❖ To preserve and promote rich art and culture of Chamba, the district administration has launched a project named "Chambyal", which has registered various art and craft societies to give practical shape to the project.
- ❖ Chamba 'rumal' and Chamba 'chappal' have received the "GI" tag under the GI Act 1999.
  - ✓ The Chamba 'chappal' is available for sale on e-commerce platforms like Flipkart and Amazon.
  - ✓ The embroidery done on Chamba 'chappals' has become very popular among tourists visiting the area, and it is being appreciated all over the country.
  - ✓ Self-help groups formed under the National Urban Livelihood Mission (NULM) are exhibiting their products at various festivals, fairs and district-level programs.

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**OTHER IMPORTANT ONE LINER**

1. Dutch player Anish Giri wins Tata Steel Masters 2023.
2. Air Marshal A.P. Singh to be new Vice Chief of Indian Air Force
3. Murali Vijay Announces Retirement From All Forms Of International Cricket.
4. Rajeev Singh Raghuvanshi Appointed As Drugs Controller General Of India.
5. British economist Meghnad Desai Authors New Book titled "The Poverty of Political Economy".
6. Madhya Pradesh CM Shivraj Singh Chouhan announces 'Ladli Bahna' scheme.
7. Indian Army carries out military exercise "Trishakri Prahar" in North Bengal.
8. World Interfaith Harmony Week observed on 1-7 February.
9. Indian Coast Guard celebrates its 47th Raising Day 2023 on February 1st.
10. Former Law Minister Shanti Bhushan passes away at 97.
11. Visakhapatnam will be the new Andhra Pradesh capital: CM.
12. UP Government Launched 'Samagra Shiksha Abhiyan' Campaign under Arohini Initiative
13. Equatorial Guinea appoints Manuela Roka Botey as first female PM.
  - Equatorial Guinea has appointed Manuela Roca Botey as Prime Minister. She became the first woman in the country to reach this position.
  - President Teodoro Obiang Nguema Mbasogo, who has ruled the country since 1979, made the announcement in a decree on state television on 31st January.
14. Former PM Manmohan Singh conferred Lifetime Achievement Honour by UK.
  - Former prime minister Dr Manmohan Singh was recently conferred a Lifetime Achievement Honour by the India-UK Achievers Honours in London for his contribution to economic and political life.
15. Adani Group Enters Israel with Haifa Port Acquisition For \$ 1.2 Billion.
16. Puma India named Indian Captain Harmanpreet Kaur as its brand ambassador.
17. MISHTI Scheme launched.
  - The main aim of the scheme is to take up mangrove plantations along the coastline. Mangrove saplings will be planted along the coastal regions of the country.
  - Mangrove forests are spread across AP, WB, Odisha, Andaman and Nicobar, Goa, Karnataka, Kerala, Maharashtra, and Tamil Nadu.
  - The Mangroves cover 0.15% of the total Indian Geographical area. This is around 4,975 square kilometers. The state of West Bengal alone has 42.45% of India's mangroves.
  - Indian mangroves are facing limitations such as an increase in salinity, lack of oxygen, and diurnal tidal inundations. MISHTI will aim and protect the Mangrove forest along the coastline.
  - Scheme implementation
  - MISHTI is to be implemented by converging CAMPA Fund, MGNREGS, and other sources.
18. Morgan Stanley names Arun Kohli new country head for India
19. Azad Engineering Private Limited, a Hyderabad-based market leader in engineering, has been approved as the first Indian company to supply critical rotating parts for nuclear turbines.
20. Australia Announced Decision to Remove British Monarchy from its Banknotes.
21. Nagaland Government Signed MoU with Patanjali Foods for Palm Oil Cultivation.
22. India welcomes Congo into International Solar Alliance.
23. Noted Writer K.V. Tirumalesh Passed Away at 82 in Hyderabad.
24. Legendary Telugu filmmaker K. Viswanath passes away at 92.
25. Pakistan's former president Pervez Musharraf passes away in Dubai due to a prolonged illness.
26. Saudi Arabia to Host Football's 2027 Asian Cup.
27. World Cancer Day 2023 observed on 4th February.
28. Odisha's VK Pandian honoured with FIH President's Award 2023.
29. India to be Theme Country at 2025 Madrid International Book Fair.
30. Dr Peggy Mohan bags 'Mathrubhumi Book of The Year' award.

- Her book 'Wanderers, Kings and Merchants,' portraying evolution of language as the outcome of migrations, won the award that carries Rs two lakh as cash prize and a sculpture.
- 31. National Ice Hockey Championship: ITBP wins 3rd consecutive time.
- 32. Padma Bhushan Awardee and Legendary Singer Vani Jayaram Passes Away.
- 33. Kerala wins inaugural National Beach Soccer Championships
- 34. EAC-PM: Shamika Ravi appointed as member in EAC-PM
- 35. International Day of Zero Tolerance for Female Genital Mutilation 2023 observed on Feb 6.
- 36. PM Modi Inaugurates India's Largest Helicopter Manufacturing Facility In Karnataka's Tumakuru.
- 37. Australia's Aaron Finch retires from International cricket
- 38. India Provides 50 Buses to Sri Lanka Under Economic Assistance Scheme.
- 39. French player Raphael Varane announces his retirement from international football.
- 40. 'Main Bharat Hoon' EC's song aims to nudge voters for upcoming polls.
- 41. Indore becomes first civic body to launch green bonds.
- 42. LeBron James becomes NBA's all-time leading scorer.
- 43. 41-year-old Pakistan Wicketkeeper-Batter Kamran Akmal Retires From All Forms Of Cricket.
- 44. K Satyanarayana Raju named as new MD and CEO of Canara Bank.
- 45. New British stamp with image of King Charles III unveiled.
- 46. Jupiter beats Saturn to become the Planet with most Moons.
- 47. PhonePe launches cross-border UPI payments service.
- 48. Nearly 600 sea lions die due to bird flu outbreak in Peru.
- 49. Kala Ghoda Arts Festival begins in Mumbai.
- 50. MobiKwik becomes India's first app to support credit cards on UPI.
- 51. Skye Air Launched India's First Traffic Management System for Drones.
- 52. Safer Internet Day 2023 observed on 7 February.
- 53. India's First Glass Igloo Restaurant opened in Gulmarg, Jammu & Kashmir.
- 54. Rohit Sharma Becomes 1st Indian skipper to Record Hundreds in All 3 Formats.
- 55. International Day of Women and Girls in Science 2023 observed on 11 February
- 56. Ravichandran Ashwin becomes the fastest Indian to pick up 450 Test wickets
- 57. Popular painter B.K.S. Verma passes away.
- 58. National Deworming Day 2023 observed on 10th February

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