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By CivilsTap Himachal

FOR HPAS &
other competitive
Exam in
Himachal Pradesh

Prelims

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1. POLITY

1.1 NAGALAND INITIATES AADHAAR LINKED BIRTH REGISTRATION

- ❖ Nagaland has become the first state in North Eastern region to launch the Aadhaar-Linked Birth Registration (ALBR) system.
- ❖ It focuses on simplifying the procedures of birth registration and Aadhaar enrolment for children aged 0 to 5 years.

1.2 COMMITTEE ON ONE NATION- ONE ELECTION

- ❖ The Law Ministry issued a notification on the 'One Nation One Election' committee.
- ❖ The committee has former President of India Ram Nath Kovind as chairman and seven other members - Home Minister Amit Shah, Adhir Ranjan Chowdhury (although rejected to be a part later), Ghulam Nabi Azad, NK Singh, Subhash C. Kashyap, Harish Salve and Sanjay Kothari.
- ❖ The panel will commence functioning immediately and make recommendations at the earliest.
- ❖ Mandate
 - ✓ The committee will examine and recommend specific amendments to the Constitution, the Representation of the People Act and any other laws and rules which would require amendments for the purpose of holding simultaneous elections.
 - ✓ It will also examine and recommend, if the amendments to the Constitution would require ratification by the States.
 - ✓ The committee will also analyse and recommend possible solutions to scenarios such as hung House, adoption of no-confidence motion, or defection or any such other event in case of simultaneous elections.
 - ✓ The committee will hear and entertain all persons, representations and communications which in its opinion can facilitate its work and enable it to finalise its recommendations.

BRIEF HISTORY

- ❖ Simultaneous elections were the norm until 1967.
- ❖ However after the dissolution of a few Legislative Assemblies in 1968-1969 and that of Lok Sabha in 1970, elections to State Assemblies and Parliament have been held separately.

PRIOR EFFORTS

- ❖ The Election Commission had suggested about simultaneous elections back in 1983.
- ❖ The Law Commission headed by Justice B P Jeevan Reddy, in its 170th Report in May 1999, stated, "We must go back to the situation where the elections to Lok Sabha and all the Legislative Assemblies are held at once".

PROS

- ❖ MAKING polls simultaneous would address concerns, such as reducing the cost of holding elections and limiting all elections to a single season.
- ❖ Model Code of Conduct gets in the way of the government announcing projects or policy plans.

CONS

- ❖ Complexity of such an exercise.
- ❖ Simultaneous polls would benefit the nationally dominant party at the cost of regional players, and
- ❖ The complications that would arise if any of the governments were to collapse before completing its term.
- ❖ Logistical issues-Availability of EVMs and VVPATs.

1.3 MITAKSHARA LAW

- ❖ The **Supreme Court** recently held that a **child born of a void or voidable marriage can inherit the parent's share in a joint Hindu family property governed by the Mitakshara law.**
- ❖ A three-judge Bench headed by Chief Justice of India D.Y. Chandrachud however clarified that such a child **would not be entitled to rights in or to the property of any other person in the family.**

A voidable marriage is one that is made invalid by the husband or wife through a decree.

A void marriage is invalid at the very inception.

ABOUT MITAKASHARA LAW

- ❖ The term Mitakshara is derived from the name of a **commentary written by Vijnaneswara, on the Yajnavalkya Smriti.**
- ❖ It is a **Hindu law school that governs the succession of property in a Hindu Undivided Families (HUF).**
- ❖ The Mitakshara school of thought holds that the **son, grandson, and grandson's son have a right to the family property through birth.**
- ❖ **Mitakashara law of succession governing HUF applies to the whole of India except West Bengal and Assam.**

1.4 LAÏCITÉ

- ❖ The **French government** announced that the **practice of wearing abaya would be banned in state-run schools** as it violated the **principle of Laïcité**, which is the **French idea of secularism.**

THE MEANING OF LAÏCITÉ

- ❖ **Coined in the 19th century, Laïcité is a complicated and politically charged term.**
- ❖ It is **understood as a formal separation of the State and Church.**
- ❖ It involves the **complete removal of religious values from the public sphere and their replacement with secular values such as liberty, equality, and fraternity.**
- ❖ The **underlying goal of Laïcité is to implant tolerance and assimilate people.**
- ❖ As per the principle, **religion is to be confined to the private sphere.**

1.5 PARLIAMENTARY SESSIONS

- ❖ The **summoning of Parliament** is specified in **Article 85 of the Constitution** which it is **based on a provision of The Government of India Act, 1935**, which specifies that the **central legislature be summoned at least once a year, and that not more than 12 months elapsed between two sessions.**
- ❖ **Dr B R Ambedkar**, however, said that the **purpose of that provision had been to summon the legislature only to collect revenue, and that the once-a-year meeting was designed to avoid scrutiny of the government by the legislature.**
 - ✓ His **drafting of the provision reduced the gap between sessions to six months, and specified that Parliament should meet at least twice a year.**

SESSIONS

- ❖ India **does not have a fixed parliamentary calendar.**
- ❖ By convention, **Parliament meets for three sessions in a year.**
- ❖ The **longest, the Budget Session**, starts towards the end of January, and concludes by the end of April or first week of May.
 - ✓ The **session has a recess so that Parliamentary Committees can discuss the budgetary proposals.**
- ❖ The **second session is the three-week Monsoon Session**, which usually begins in July and finishes in August.
- ❖ The **parliamentary year ends with a three week-long Winter Session**, which is held from November to December.
- ❖ The **power to convene a session of Parliament rests with the government.**
 - ✓ The **decision is taken by the Cabinet Committee on Parliamentary Affairs, and formalised by the President, in whose name MPs are summoned to meet for a session.**

1.6 eCOURTS PROJECT

- ❖ The **Union Cabinet** has approved the third phase of the **eCourts Projects** with a budget allocation of **Rs.7,210 crore**.

ABOUT

- ❖ The **eCourts Mission Mode Project** is the prime mover for improving access to **justice** using technology.
- ❖ As part of the **National eGovernance Plan**, the **e-Courts Project** has been under implementation since **2007** for ICT enablement of the Indian Judiciary, the Phase II of which has concluded in **2023**.
- ❖ **Phase III of the e-Courts Project in India** is rooted in the philosophy of “access and inclusion” and aims to create a unified technology platform, which will provide a seamless and paperless interface between the courts, the litigants and other stakeholders.
- ❖ Taking the gains of **Phase-I and Phase-II** to the next level, the **e-Courts Phase-III** aims to usher in a regime of maximum ease of justice by moving towards digital, online and paperless courts.
- ❖ It includes digitization of the entire court records including legacy records and by bringing in universalization of e-Filing/ e-Payments through saturation of all court complexes with **e-Sewa Kendras**.
- ❖ It will put in place intelligent smart systems enabling data-based decision making for judges and registries while scheduling or prioritizing cases.
- ❖ It is being implemented under the joint partnership of **Department of Justice, and eCommittee, Supreme Court of India**, in a decentralized manner through the respective **High Courts** to develop a judicial system that would promote ease of justice.

1.7 NATIONAL JUDICIAL DATA GRID

- ❖ The **Supreme Court** recently onboarded its case data on the **National Judicial Data Grid**.

ABOUT NATIONAL JUDICIAL DATA GRID:

- ❖ The **NJDG portal** is a national repository of data relating to cases instituted, pending and disposed of by the courts across the country.
- ❖ It includes case details of **18,735 District and subordinate Courts and High Courts**.
- ❖ It has been created as an online platform under the **eCourts Project**.
- ❖ Its key feature is that the data is updated in real-time and has granular data up to the Taluka level.
- ❖ The **NJDG** was built as part of **Phase II of the e-Courts project**, which is a **Centrally Sponsored Scheme**.
- ❖ The platform has been developed by the **National Informatics Centre (NIC)**.

SIGNIFICANCE:

- ❖ **NJDG works** as a monitoring tool to identify, manage & reduce pendency of cases.
- ❖ For instance, for the year **2023, the total pendency of registered cases in SC is 64,854**.
- ❖ But the Cases instituted last month were **5,412** while cases disposed of in the last month were **5,033**.
- ❖ This shows that the pendency in **SC is largely due to legacy cases since the Court** is currently disposing of approximately the same number of cases filed on an annual basis.

IDENTIFICATION OF LIMITATIONS IN JUDICIARY:

- ❖ It also helps **identify specific bottlenecks in judicial processes**.
- ❖ For example, if the number of land disputes in a particular state shoots up, it helps policymakers look into whether the law needs to be strengthened.
- ❖ Referring to the data of year-wise pendency of cases, the CJI said the apex court has less than a hundred cases pending **before 2000** and it gives data tools to the Chief Justice to re-organise work and dispose of the oldest cases.

INPUTS FOR SPECIFIC LAWS:

- ❖ It also helps generate inputs related to particular areas of **law**.
- ❖ **For example, to track cases related to land disputes, Land Records data of 26 States have been linked with NJDG.**

1.8 DELIMITATION

- ❖ The Constitution (One Hundred and Twenty Eighth Amendment) Bill, 2023, or Women Reservation Bill links **women's reservation to the contentious delimitation process.**
- ❖ It states that **women's reservation "shall come into effect after an exercise of delimitation is undertaken for this purpose after the relevant figures for the first Census taken after the commencement of..." this Bill.**

ABOUT DELIMITATION

- ❖ **Delimitation** means the act or process of fixing limits or boundaries of territorial constituencies in a country or a province having a legislative body.
- ❖ **Article 82** of the Constitution provides for the readjustment of the constituencies (number and boundaries) of Lok Sabha and State Assemblies after every Census.
 - ✓ **Under Article 170**, States also get divided into territorial constituencies as per Delimitation Act after every Census.
- ❖ The **42nd Amendment** froze this delimitation exercise until the first Census after 2000 is published.
- ❖ In 2001, this was further extended for 25 years. So now, delimitation would happen on the results of the **first Census after 2026.**
- ❖ The delimitation exercise will require a **consensus among states.**
- ❖ **Article 368(2)** of the Constitution requires that any change to the representation of States in Parliament will have to be cleared by a special majority of not less than two-third members of that House present and voting, and needs to be ratified by at least half of the states.

DELIMITATION COMMISSION

- ❖ The Commission is **appointed by the President of India** and works in collaboration with the Election Commission of India.
- ❖ **Composition:**
 - ✓ **Retired Supreme Court judge**
 - ✓ **Chief Election Commissioner**
 - ✓ **Respective State Election Commissioners**
- ❖ The Delimitation Commission in India is a high-power body whose **orders have the force of law and cannot be called in question before any court.**

1.9 EVM- ELECTRONIC VOTING MACHINE

- ❖ The Supreme Court **declined to entertain a writ petition seeking an independent audit of the source code governing the entire Electronic Voting Machine (EVM) system.**
 - ✓ A '**source code**' is a set of written instructions to a machine's hardware.
 - ✓ It **provides a virtual window into the inner workings and processes of an electronic device.**
- ❖ The petitioner had submitted that the **independent audit should be undertaken by applying the IEEE 1028 standard.**
 - ✓ This is a **well-established standard for software reviews and audits** fixed by the Institute of Electrical and Electronics Engineers, the world's largest technical professional organization (HQ: Piscataway, New Jersey, USA).
- ❖ The Supreme Court, however, said the **Election Commission of India (ECI)** was constitutionally entrusted with the **superintendence and control of the polls** and no material has been provided to show that the ECI was in breach of its constitutional mandate.

FACTS ABOUT EVMS

- ❖ EVM is a **microcontroller-based portable instrument** and does not require electricity and run on an **ordinary battery.**
- ❖ **MB Haneefa** invented the **first Indian voting machine in 1980.**
- ❖ It was **first used in 1981** in the **by-election to North Paravur Assembly Constituency of Kerala** in 50 polling stations.

- ❖ The EVMs were commissioned in 1989 by Election Commission of India in collaboration with Bharat Electronics Limited and Electronics Corporation of India Limited.
- ❖ The law was amended by the Parliament in December, 1988 and a new section 61A was inserted in the Representation of the People Act, 1951 empowering the Commission to use voting machines.
 - ✓ The amended provision came into force with effect from 15th March, 1989.

1.10 PERSONALITY RIGHTS

- ❖ The Delhi High Court allowed Anil Kapoor's pleas for protection of his personality rights from misuse by third parties.

ABOUT PERSONALITY RIGHTS

- ❖ The name, voice, signature, images or any other feature easily identified by the public are markers of a celebrity's personality and are referred loosely as "personality rights."
- ❖ These could include a pose, a mannerism or any aspect of their personality.
 - ✓ For example, Usain Bolt's "bolting" or lightning pose is a registered trademark.
- ❖ Personality rights or their protection are not expressly mentioned in a statute in India but are traced to fall under the right to privacy and the right to property.
- ❖ The idea is that only the owner or creator of these distinct features has the right to derive any commercial benefit from it.
 - ✓ Exclusivity is a big factor in attracting commercial dividends for celebrities. So unauthorised use causes a tangible loss of revenue.
- ❖ Celebrities can move the Court and seek an injunction when an unauthorised third party uses their personality rights for commercial purposes.

1.11 GITA MITTAL COMMITTEE

- ❖ Faced with myriad complaints and grievances from petitioners in the Manipur ethnic violence case, the Supreme Court said it could not run the State administration, and petitioners had to trust the Justice Gita Mittal Committee to do its job.
- ❖ The issues raised by various petitioners, and to begin with, the committee itself, included distribution of Aadhaar cards and disability certificates to the displaced people of the State, to distribution of compensation to the families of the dead, reconstruction of religious buildings and homes destroyed in the clashes, disposal of bodies to functioning of courts in the State.
- ❖ The Justice Mittal Committee was constituted by the apex court to intervene and monitor relief and rehabilitation, restoration of homesteads, religious places of worship, etc, in Manipur.
 - ✓ CJI had said the committee, through its work, would endeavour to re-instill the Manipur people's belief in the rule of law.

1.12 AFSPA EXTENDED

- ❖ The Ministry of Home Affairs (MHA) has extended the Armed Forces (Special Powers) Act (AFSPA) in parts of Nagaland and Arunachal Pradesh for another six months, beginning October 1.
- ❖ Also Manipur government declared the entire state a 'disturbed area' under the Armed Forces Special Powers Act (AFSPA) for a period of six months in the wake of the prevailing law and order situation.
 - ✓ However, the status will not be implemented in areas under the jurisdiction of 19 police stations including the capital Imphal.

ABOUT AFSPA

- ❖ It grants special powers to the armed forces to bring back order in 'disturbed areas.'
- ❖ The Act gives unbridled power to the armed forces and the Central Armed Police Forces deployed in "disturbed areas" to
 - ✓ kill anyone acting in contravention of law,
 - ✓ arrest and search any premises without a warrant and

- ✓ protection from prosecution and legal suits without the Central government's sanction.
- ❖ Under Section 3, the Central Government or the Governor of the State or administrator of the Union Territory can declare the whole or part of the State or Union Territory as a disturbed area.

2. ECONOMY

2.1 KAKRAPAR NUCLEAR POWER PLANT

- ❖ India's first indigenously developed nuclear power plant unit, 700 MWe Kakrapar Nuclear Power Plant Unit-3, in Gujarat has started operations at full capacity.
- ❖ The Kakrapar Unit-3 is an expansion of the existing nuclear power plant, which already had two operational units, KAPS-1 and KAPS-2, each with a capacity of around 220 MWe (megawatts electrical).
- ❖ KAPP-3 is the country's first 700 MWe unit and the biggest indigenously developed variant of the Pressurised Heavy Water Reactor (PHWR).
- ❖ The third unit is larger and more advanced compared to the first two.
 - ✓ Another unit (KAPP 4) has also been constructed and operation here is expected to begin by March 2024.
- ❖ As per the Nuclear Power Corporation of India Limited or NPCIL, which operates the nuclear plants in the country, KAPP-3 and 4 are India's first pair of indigenously designed Pressurised Heavy Water Reactors (PHWRs) of 700 MW unit size with enhanced safety features.

The PHWRs use natural uranium as fuel and heavy water as moderator.

Till now, the biggest reactor of indigenous design was the 540 MWe PHWR, two of which have been deployed in Tarapur, Maharashtra.

2.2 AFSPA EXTENDED

- ❖ Bhaderwah Rajmah and Sulai honey, both hailing from the districts of Doda and Ramban in Jammu and Kashmir, have been granted Geographical Indication (GI) tags.
- ❖ Bhaderwah Rajmah, a variety of red kidney beans characterised by its smaller size and distinct texture, boasts a sweet and nutty flavor that adds a delightful touch to various culinary creations.
- ❖ Sulai honey stands out as a premium and exotic honey variety originating from the enchanting landscapes of Ramban.
 - ✓ Revered for its exceptional taste worldwide, this honey is meticulously extracted from Sulai plants thriving in the Himalayan terrain of Ramban and Doda.

2.3 URBAN INFRASTRUCTURE DEVELOPMENT FUND

- ❖ The first tranche of loans to fund ongoing projects in tier-2 and tier-3 cities — under the Urban Infrastructure Development Fund (UIDF) will likely be disbursed soon.
- ❖ The fund was announced in the FY24 Budget.
- ❖ The fund makes low-cost loans available to 459 tier-2 cities with a population between 1 lakh and 9,99,999 and 580 tier-3 towns with a population between 50,000 and 99,999 as per the 2011 Census.
- ❖ The National Housing Bank (NHB) is in charge of executing the UIDF.
- ❖ The UIDF funding can be combined with funding under other schemes of the Ministry such as Swachh Bharat Mission and AMRUT.
- ❖ Funding
 - ✓ Cities can get loans at a rate that is 1.5 % points less than the prevailing bank interest rate. They will have to repay the amount within seven years from the date of withdrawal in five equal instalments, including a two-year moratorium period where interest will have to be paid at the end of each quarter.

- ✓ The amount of the loan will be 90 %, 85 % and 75% for project costs of Rs 5-10 crore, Rs 10-50 crore and Rs 50-100 crore, respectively.
- ❖ Projects that can be funded under the UIDF are water supply, sanitation, construction of roads, comprehensive area development, local area planning for decongestion, heritage conservation, town-planning schemes and parks with open gyms that do not involve major construction.
 - ✓ Fund cannot be used for maintenance work, administrative expenses, housing, power, telecom, urban transport, health and education projects.

2.4 IMPOSSIBLE TRINITY

- ❖ “Impossible trinity”, better known as the “trilemma,” is a concept which stipulates that a country cannot have -
 1. Free capital flow (no capital controls),
 2. A fixed/stable exchange rate, and
 3. Independent monetary policy, all at the same time.
- ❖ An able policymaker can, at best, achieve two of these three objectives at any given time.
- ❖ John Marcus Fleming and Robert Alexander Mundell developed this concept.

2.5 INDIA'S 1ST UPI –ATM

- ❖ The country's first UPI ATM was launched recently.
- ❖ Hitachi Payment Services has introduced 'the country's first-ever UPI-ATM as a White Label ATM (WLA) in association with National Payments Corporation of India (NPCI).
- ❖ The UPI-ATM offers a seamless and secure cash withdrawal process without the need for a physical card.
- ❖ UPI-ATM operates through QR-based UPI cash withdrawals.
- ❖ UPI-ATM is accessible to UPI users who have a UPI application installed on their Android or iOS devices.

ATMs set up, owned and operated by non-banks are called WLAs.

2.6 GATI SHAKTI VISHWAVIDYALAYA

- ❖ Indian Railways' Gati Shakti Vishwavidyalaya and Airbus inked a **pact to collaborate** in the fields of **research, teaching, and training of students** to deepen **understanding of scientific, technological, and management topics pertaining to the aerospace sector**.

ABOUT GATI SHAKTI VISHWAVIDYALAYA

- ❖ Gati Shakti Vishwavidyalaya (GSV) is a **Central University, located in Vadodara, Gujarat and established through an Act of Parliament in 2022**.
- ❖ It is **India's first University** in the **Transportation and Logistics sectors**.
- ❖ It **subsumes** the previously-existing **National Rail and Transportation Institute (NRTI)**.
- ❖ **Mandate: To create best in class manpower and talent for the entire transportation and logistics sectors**.
- ❖ Sponsored by: Ministry of Railways, Govt. of India.
- ❖ Union **Minister of Railways** is the **Chancellor**.

2.7 SALEM SAGO GETS GI TAG

- ❖ Salem Sago from Tamil Nadu has received GI Tag.
- ❖ Salem Sago or Sabudana, locally known as Javvarisi, is derived from the wet starch powder extracted from tapioca roots.
- ❖ Indian tapioca roots are known to contain approximately 30-35% starch content.

- ❖ Currently, over 80% of sago in India is produced in the Salem region.

2.8 INCREMENTAL CASH RESERVE RATIO (I-CRR)

- ❖ The Reserve Bank of India (RBI) announced that it would discontinue the incremental cash reserve ratio (I-CRR) in a phased manner.
- ❖ In August 2023, the RBI mandated banks to maintain an **incremental cash reserve ratio (I-CRR) of 10 per cent** on the increase in their net demand and time liabilities (NDTL) between May 19, 2023 and July 28, 2023.

ABOUT (I-CRR)

- ❖ The RBI announced I-CRR as a temporary measure to absorb excess liquidity from the banking system.
- ❖ The level of surplus liquidity in the system surged because of the return of **Rs 2,000 banknotes** to the banking system, RBI's surplus transfer to the government, pick up in government spending and capital inflows.
- ❖ The daily absorption of liquidity by the RBI in July was **Rs 1.8 lakh crore**.
- ❖ Excessive liquidity can pose risks to price stability and also to financial stability.
- ❖ Hence, efficient liquidity management requires continuous assessment of the level of surplus liquidity so that additional measures are taken as and when necessary to impound the element of excess liquidity.

IMPACT OF I-CRR ON LIQUIDITY CONDITIONS

- ❖ The banking system's liquidity turned deficit for the first time in the current fiscal after the RBI's I-CRR mandate.
- ❖ The tight liquidity condition was also contributed by outflows on account of goods and services tax (GST) and the selling of dollars by the central bank to stem the rupee's fall.
- ❖ The liquidity, as reflected by the amount of money injected by the RBI into the system, stood at **Rs 23,644.43 crore on August 21**.
- ❖ However, the banking system liquidity again turned to surplus from August 24. On September 8, the RBI absorbed **Rs 76,047 crore** of surplus liquidity from the system.
- ❖ The RBI has outlined a schedule for releasing the funds maintained by lenders under the I-CRR:
 - ✓ **25% of the funds will be released on September 9.**
 - ✓ **Another 25% will be released on September 23.**
 - ✓ **The remaining 50% will be released on October 7.**
- ❖ The phased release of funds is intended to provide banks with sufficient liquidity to meet higher credit demand during the upcoming festival season.

2.9 GLOBAL FINTECH FEST 2023

- ❖ **Global Fintech Fest (GFF)** is the largest fintech conference, jointly organized by the **National Payments Corporation of India (NPCI), the Payments Council of India (PCI), and the Fintech Convergence Council (FCC)**.
- ❖ Its Aim is to provide a singular platform for fintech leaders to **foster collaborations and develop a blueprint** for the future of the industry.
- ❖ GFF is a platform where **policymakers, regulators, industry leaders, academics, and all major FinTech ecosystem stakeholders** converge once a year to exchange ideas, share insights, and drive innovation.
- ❖ **GFF'23 Theme: Global Collaboration for a Responsible Financial Ecosystem.**

- ❖ The theme of GFF 2023 highlights the critical need for global collaboration to build a financial ecosystem that is inclusive, resilient, and sustainable.

FINTECH:

- ❖ **Fintech (Financial technology)** is used to describe new technology that seeks to improve and automate the delivery and use of financial services.
- ❖ The key segments within the FinTech space include Digital Payments, Digital Lending, BankTech, and Cryptocurrency.
- ❖ FinTech spans various sectors, including education, retail banking, fundraising, nonprofit, and investment management, making it a rapidly growing industry with significant business expansion and job creation.

2.10 'NATION FIRST TRANSIT CARD'

- ❖ **State Bank of India (SBI)**, the country's largest bank, launched the '**Nation First Transit Card**' to improve commuting experiences and encourage the use of digital payments.
- ❖ The innovative '**Nation First Transit Card**' aims to simplify digital ticket fare payments within a single card for various transport modes including **metro, buses, water ferries, parking, and more**.
- ❖ Apart from transport payments, the card can also be used for retail and e-commerce transactions.
- ❖ The '**Nation First Transit Card**' is powered by **RuPay and National Common Mobility Card (NCMC) technology**, making it a potential game-changer for millions of Indians in their daily commute.

2.11 INTERBANK CALL MONEY MARKET

- ❖ The **RBI** is likely to launch the pilot of **central bank digital currency (CBDC)** for transactions for interbank borrowing or call money market.

MONEY MARKET

- ❖ **The money market** basically refers to a section of the financial market where financial instruments with high liquidity and short-term maturities are traded.
- ❖ It includes buying and selling of securities of **short-term maturities** of one year or less, such as treasury bills and commercial papers.
- ❖ It is used by many participants, including companies, to raise funds.
- ❖ The money market is considered a safe place to invest due to the **high liquidity of securities**.

CALL MONEY

- ❖ **Call money is also referred to as the money at call.**
- ❖ It is a **short-term loan** that is due to be paid immediately in full as and when demanded by the lender.
- ❖ Unlike term loans, call money loan does not have a defined schedule of payment and maturity.
- ❖ Furthermore, the lender of the **call money** need not provide prior notice to the borrower about the repayment.

ABOUT THE INTERBANK CALL MONEY MARKET:

- ❖ It is a **short-term money market** which allows large financial institutions to borrow and lend money at interbank rates, the rate of interest that banks charge when they borrow funds from each other.
- ❖ The loans in the call money market are **very short, usually lasting no longer than a week**.
- ❖ These loans are often used to help banks meet reserve requirements.
- ❖ It is not exclusively used by banks. Interbank call money market customers can include other **financial institutions, mutual funds, large corporations, and insurance companies**.

2.12 SELF-REGULATORY ORGANISATION (SRO) FOR FINTECH ENTITIES

- ❖ The Reserve Bank of India (RBI) has proposed setting up a Self Regulatory Organisation (SRO) for fintechs to address several key objectives and concerns within the fintech industry.

ABOUT SELF-REGULATORY ORGANISATION:

- ❖ It is a **non-governmental organisation** that sets and enforces rules and standards relating to the conduct of entities in the industry (members).
- ❖ **Aim:** Protecting the customer and promoting ethics, equality, and professionalism.
- ❖ These typically collaborate with all stakeholders in framing rules and regulations.

WHAT ARE THE FUNCTIONS OF AN SRO?

- ❖ The recognised **SRO** will serve as a two-way communication channel between its **members and the RBI**.
- ❖ It will work towards establishing minimum benchmarks and standards and help instil professional and healthy market behaviour among its members.
- ❖ These will impart training to the staff of its members and others and will conduct awareness programmes.
- ❖ It will establish a uniform grievance redressal and dispute management framework across its members.

2.13 SOVEREIGN GOLD BOND SCHEME

- ❖ The Reserve Bank of India (RBI) recently announced the issue price for the upcoming Sovereign Gold Bond (SGB) Tranche 2.

ABOUT SOVEREIGN GOLD BOND SCHEME:

- ❖ SGBs were introduced by the Government of India in **2015 under the Gold Monetization Scheme**.
- ❖ They are issued by the RBI in different tranches during a financial year.
- ❖ These securities are made available via banks, brokers, post offices and online platforms.
- ❖ A discount of **INR 50 per gram** is offered to investors who purchase them digitally to promote buying SGBs online.
- ❖ Investors can either buy the bonds in physical, digital or dematerialized format.
- ❖ SGBs have a term of eight years and an interest rate of **2.5% per annum paid on a half-yearly basis**.
- ❖ On maturity i.e. after 8 years, the Gold Bonds shall be redeemed in Indian Rupees and the redemption price shall be based on simple average of closing price of gold of previous **3 business days**.
- ❖ Early encashment/redemption of the bond is allowed after fifth year from the date of issue on coupon payment dates.
- ❖ Every individual purchase is restricted to a maximum of **4kgs** per financial year and in case of a trust, it is restricted to **20kgs**.
- ❖ The only document mandatory for the purchase of SGBs is a PAN card without which no investment in these bonds is permitted.

2.14 BUSINESS RESPONSIBILITY AND SUSTAINABILITY REPORTING

- ❖ Indian Institute of Corporate Affairs (IICA) organised a workshop on **Business Responsibility and Sustainability Reporting (BRSR)** in collaboration with **UNICEF and National Stock Exchange** at the NSE premises in Mumbai.

ABOUT BUSINESS RESPONSIBILITY AND SUSTAINABILITY REPORTING (BRSR) FRAMEWORK

- ❖ The **Business Responsibility and Sustainability Reporting (BRSR) framework** was introduced by SEBI in 2021.
- ❖ The framework is a mandatory disclosure mechanism for top **1000 listed companies** or businesses to report their performance on environmental, social and governance (ESG) aspects and demonstrate their commitment to responsible business practices.
- ❖ The framework is based on the nine principles of the **National Guidelines for Responsible Business Conduct (NGRBC)** which are:
 - ✓ **PRINCIPLE 1.** Businesses should conduct and govern themselves with integrity, and in a manner that is Ethical, Transparent and Accountable

- ✓ **PRINCIPLE 2.** Businesses should provide goods and services in a manner that is sustainable and safe
- ✓ **PRINCIPLE 3.** Businesses should respect and promote the well-being of all employees, including those in their value chains
- ✓ **PRINCIPLE 4.** Businesses should respect the interests of and be responsive to all its stakeholders
- ✓ **PRINCIPLE 5.** Businesses should respect and promote human rights
- ✓ **PRINCIPLE 6.** Businesses should respect and make efforts to protect and restore the environment
- ✓ **PRINCIPLE 7.** Businesses, when engaging in influencing public and regulatory policy, should do so in a manner that is responsible and transparent
- ✓ **PRINCIPLE 8.** Businesses should promote inclusive growth and equitable development
- ✓ **PRINCIPLE 9.** Businesses should engage with and provide value to their consumers in a responsible manner.

2.15 INWARD & OUTWARD FDI TRENDS 2023

- ❖ A Recent Census by the **Reserve Bank of India** shows that Total Outward Direct Investment by Indian Firms rose by **19.46% in FY2023**.
- ❖ This census relied on **foreign liabilities and assets (FLA) data**, which encompassed cross-border assets and liabilities of various entities such as companies, limited liability partnerships, alternative investment funds, and partnership firms engaged in inward and outward direct investment (DI).
- ❖ **Outward direct investment (ODI)** – It is a business strategy in which a domestic firm expands its operations to a foreign country.
- ❖ It distinguishes from the **Foreign Portfolio Investment**.
- ❖ **Singapore** was the largest beneficiary of outward direct investment (ODI) by Indian firms.
- ❖ Also, 3 countries **Bermuda, Jersey and Cyprus** which are known for their tax benefits are in the top 10 countries that received Indian ODI.
- ❖ **Inward FDI Trends** – **US** was the largest source of inward foreign direct investment (FDI) followed by Mauritius, the **UK** and **Singapore** which collectively accounted for 60% of the inward FDI in the country.
- ❖ **Sector wise** - The manufacturing sector continued to attract the largest share of FDI equity, both at market value as well as at face value.
- ❖ **Services** - Among services, information & communication and financial & insurance activities were the major FDI recipient sectors.
- ❖ **Market Value** - In terms of market value, ODI growth outpaced the growth in FDI and, as a result, the ratio of inward to outward direct investment stood at **5.5 times in 2023 as compared with 6.1 times in 2022**.

- ❖ **Foreign portfolio investment (FPI)** – It consists of securities and other financial assets held by investors in another country.
- ❖ It does not provide the investor with direct ownership of a company's assets and is relatively liquid depending on the volatility of

2.16 GOODS AND SERVICES TAX APPELLATE TRIBUNALS (GSTAT)

- ❖ The Finance Ministry has notified **31 benches of GST Appellate Tribunal (GSTAT)** which will be **set up in all states and Union Territories**.

DISTRIBUTION

- ❖ As per the notification-
- ❖ **Gujarat and UTs — Dadra and Nagar Haveli and Daman and Diu**, will have **two benches** of the GSTAT;
- ❖ **Goa and Maharashtra together will have three benches**.
- ❖ **Karnataka and Rajasthan** will have **two benches each**, while **Uttar Pradesh will have three benches**.
- ❖ **West Bengal, Sikkim and Andaman and Nicobar islands**; and **Tamil Nadu and Puducherry will together have two GSTAT benches each**, while **Kerala and Lakshadweep will have one bench**.
- ❖ The **seven North Eastern states** — Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura — **will have one bench**.
- ❖ **All other states will have one bench of the GSTAT**.

SIGNIFICANCE-

- ❖ **Setting up of state-level benches of GSTAT would help businesses by way of faster dispute resolution.**
- ❖ Currently, **taxpayers aggrieved** with ruling of tax authorities are **required to move the respective High Courts.**
- ❖ The resolution process takes a long time as **High Courts are already burdened with backlog of cases and do not have a specialised bench to deal with GST cases.**

2.17 UNIFIED PORTAL FOR AGRICULTURAL STATISTICS

- ❖ **Unified Portal for Agricultural Statistics (UPAg Portal- www.upag.gov.in)** was launched recently.
- ❖ The portal was launched by **Ministry of Agriculture & Farmers Welfare.**
- ❖ The UPAg Portal is a **crucial component of the Digital Public Infrastructure for Agriculture**, aimed at harnessing the diversity of the agriculture sector and using data as a catalyst for growth.
- ❖ It is a **pioneering initiative** by the **Department of Agriculture and Farmers' Welfare**, to **streamline data management in the agriculture sector.**

KEY FEATURES OF UPAG PORTAL:

- ❖ **Data Standardization:** The portal standardizes data on prices, production, area, yield, and trade, making it accessible in one location, eliminating the need to compile data from multiple sources.
- ❖ **Data Analysis:** UPAg Portal will perform advanced analytics, offering insights such as production trends, trade correlations, and consumption patterns, aiding policymakers in making informed decisions.
- ❖ **Granular Production Estimates:** The portal will generate granular production estimates with increased frequency, enhancing the government's ability to respond to agricultural crises swiftly.
- ❖ **Commodity Profile Reports:** Commodity profile reports will be produced using algorithms, minimizing subjectivity and providing users with comprehensive insights.
- ❖ **Plug and Play:** Users will have the flexibility to use the portal's data to prepare their own reports, promoting data-driven decision-making.

2.18 FINANCIAL INCLUSION INDEX

- ❖ The value of the **financial inclusion index (FI Index) for March 2023 stands at 60.1** as against 56.4 in March 2022, according to a statement **released by the Reserve Bank of India (RBI).**

ABOUT THE INDEX

- ❖ The FI-Index **has been constructed without any 'base year'** and it **reflects cumulative efforts of all stakeholders over the years towards financial inclusion.**
- ❖ It ranges between **0 (complete financial exclusion) and 100 (complete financial inclusion).**
- ❖ The FI-Index is **published annually in July every year.**
- ❖ RBI had **introduced the FI-Index in 2021** with the purpose of capturing the extent of financial inclusion across the country.
- ❖ It comprises of **three broad parameters – access (35 per cent), usage (45 per cent), and quality (20 per cent) with 97 indicators tracked.**
- ❖ The index is **responsive to ease of access, availability and usage of services, and quality of services.**

Note-

- ❖ **Financial inclusion** refers to the **efforts to provide access of financial tools and products to various segments of the society.**
- ❖ In India, several **banks, non-banking financial companies (NBFCs), micro-finance institutions (MFIs) and fintech companies** are active in this field.

2.19 NYUKMADUNG DAIRY

- ❖ A **high-altitude village in Arunachal Pradesh**, known for a **1962 war memorial**, has added a **first-of-its-kind parlour for milk from a bovine animal** that's often called **'the ship of the Himalayas'.**

- ❖ The village, at about **2,800 metres above sea level**, now sports the **Nyukmadung Dairy** at the farm of the **Indian Council for Agricultural Research-National Research Centre on Yak, or NRC-Y**.
- ❖ The **yak (Poephagus grunniens)** is the **lifeline of highland ethnic communities** living in the **Himalayan and trans-Himalayan regions** in conditions not favourable for any type of agrarian activities.
- ❖ The animal sustains the livelihood of the highlanders by yielding **milk, meat, fibre, hide, and dung** apart from being used for transportation.
- ❖ Yak milk is **creamy white, thick, sweetish, fragrant, and richer in protein, fat, lactose, minerals, and total solids than cow milk**.
- ❖ In general, **yak milk is considered naturally concentrated milk enriched with a higher nutrient density and loaded with omega-3 fatty acids, amino acids, and antioxidants**.
 - ✓ It also has **vitamins and minerals**.

2.20 MITHUN

- ❖ The **Food Safety and Standards Authority of India (FSSAI)** has recognised the bovine **Mithun** as a **'food animal'**, starting **September 1**,
- ❖ It aims to help farmers and tribal village communities to **benefit commercially from the sale and processing of mithun meat**.

Food Animals are those that are raised and used for food production or consumption by humans.

ABOUT MITHUN

- ❖ The mithun is a **ruminant species of the Bovidae family** found in **Arunachal Pradesh, Nagaland, Manipur and Mizoram**.
- ❖ Scientific name- **Bos frontalis**
- ❖ It is state animal of **both Arunachal Pradesh and Nagaland**.
- ❖ It is **similar to Gaur (Indian bison)** but are smaller in size.
- ❖ The **slaughter of mithuns is traditionally reserved for special occasions**.
- ❖ On an average, an adult mithun weighs between **400 and 650 kg**.
- ❖ Traditionally, the mithun is **semi-domesticated** and is **reared in a free-range forest ecosystem**.
- ❖ The animal is usually let loose in a community forest and has **rarely required shelter or supplementary feeding, except for salt**.
 - ✓ Since the soil in these parts is acidic and low in salt content, **mithuns have an affinity for salt**.
- ❖ **Protection status**
 - ✓ IUCN red list status- **Vulnerable**
 - ✓ CITES- **Appendix I**

2.21 INTERNATIONAL CONGRESS ON THE CHEMISTRY OF CEMENT

- ❖ India has **won its bid** to host the **prestigious International Congress on the Chemistry of Cement (ICCC)** in **2027**, a gathering that brings together **global leaders, scholars, and industry professionals** to discuss **advancements in cement research**.
- ❖ **National Council for Cement and Building Materials (NCCBM)** and **IIT Delhi**, effectively presented India's bid.
- ❖ India clinched the **bid over competing nations UAE and Switzerland**.
 - ✓ The last conference in India took place in **1992** in the **national capital**.

ABOUT ICCC

- ❖ ICCC is a **premier event** that **critically assesses the advancements in cement and concrete research**
- ❖ It has **been held approximately every four to six years since 1918**.
- ❖ **Permanent Secretariat- Dusseldorf, Germany**

ABOUT NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS

- ❖ NCCBM is a **premier research and development organisation** dedicated to research, technology development, education, and industrial services for the cement, allied building materials, and construction industries.
- ❖ It **operates under Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**
- ❖ India **boasts the world's second-largest cement industry with an installed capacity of 600 million tonnes.**

2.22 INDIA'S FIRST GREEN HYDROGEN-RUN

- ❖ IndianOil has **unveiled India's first green hydrogen-run bus that emits just water.**
- ❖ IOCL will produce close to **75 kg of hydrogen by splitting water using electricity from renewable sources.**
- ❖ This hydrogen **will be used to power two buses which will ply across the national capital region for trial runs.**
- ❖ IOC's R&D Centre at Faridabad is producing green hydrogen for the pilot run.
- ❖ **Four cylinders with a capacity of 30 kg can run the buses for 350 km.**
- ❖ **It takes 10-12 minutes for the four tanks to fill.**

HYDROGEN AS FUEL

- ❖ Hydrogen when burnt **emits only water vapour as a by-product.**
- ❖ With **three times the energy density** and the **absence of harmful emissions**, hydrogen shines as a cleaner, more efficient choice to meet the energy requirement.
- ❖ As much as **50 units of renewable electricity** and **9 kg of deionized water** are needed for the **production of one kilo of green hydrogen.**
- ❖ Hydrogen can be **used as a fuel for fuel cells.**
- ❖ The **global demand for hydrogen** is expected to **increase by four to seven times to 500-800 tonne by 2050.**

2.23 ANGEL TAX

- ❖ The Centre govt. recently notified the **Angel Tax rules for valuation of equity and compulsorily convertible preferable shares** issued by **startups to resident and non-resident investors.**
- ❖ In a bid to **curb overvaluation and maintain transparency in capital transactions**, **unlisted companies issuing shares at a price exceeding their fair market value will be subject to Angel Tax at 30.6%.**
- ❖ While earlier **only investments made by a resident investor used to attract angel tax**, the **Budget for 2023-24 widened its ambit to include non-resident investors**
- ❖ As per the Budget, the **excess premium will be considered as 'income from sources'** and **taxed at the rate of up to over 30 per cent.**
 - ✓ However, **startups registered by the DPIIT** (Department for promotion of industry and internal trade) are **exempt from the new norms.**
- ❖ The Income-tax (Twenty first Amendment), Rules, 2023 modify **rule 11UA** specify that the **fair value of the shares will be as determined by the methods provided.**
 - ✓ Rule 11UA is **concerned with the valuation of shares for the purpose of levying Angel Tax.**

Angel tax is levied when an unlisted company issue shares to an investor at a price higher than its fair market value.

2.24 PFRDA URGES TO RAISE PENSION AMOUNT UNDER APY

- ❖ The **Pension Fund Regulatory and Development Authority (PFRDA)** has urged the **government to raise the guaranteed pension amount under the Atal Pension Yojana (APY).**
- ❖ The **current sum may not entice potential subscribers to join the scheme.**

ABOUT ATAL PENSION YOJANA (APY)

- ❖ APY is a contributory scheme aimed at establishing a universal social security system for workers in the unorganised sector.
- ❖ APY replaced Swavalamban Scheme.
- ❖ Administered by PFRDA under National Pension System.
- ❖ Nodal Ministry – Ministry of Finance
- ❖ Currently, subscribers between 18 years to 40 years contribute and receive a fixed pension amount ranging from Rs 1,000 to Rs 5,000 after turning 60.
- ❖ As of 16 September, APY has 50 million subscribers and Rs 30,694 crore in assets under management (AUM).

2.25 GREEN AMMONIA

- ❖ State-run V O Chidambaranar (VOC) Port, located in Tamil Nadu's Thoothukudi district, has become the first port in India to handle green ammonia with the arrival of three 20-inch tank containers loaded with the fuel from the Port of Damietta in Egypt for Tuticorin Alkali Chemicals and Fertilisers Ltd.
 - ✓ VOC Port is one of the 12 ports owned by the Union government.

ABOUT GREEN AMMONIA

- ❖ Green Ammonia, referred to as the 'fuel of the future', has gained prominence as a cleaner and greener alternative to traditional fossil fuels.
- ❖ It is produced through a process that utilizes renewable energy sources, such as wind and solar power, to generate hydrogen, which is then combined with nitrogen to create ammonia.
- ❖ This process significantly reduces greenhouse gas emissions compared to conventional ammonia production methods.
- ❖ Applications- a clean energy source for ships, power generation and even as a fertiliser.

2.26 DIAMOND INDUSTRY

- ❖ The Gem and Jewellery Export Promotion Council and other leading associations have directed members to halt import of rough diamonds for two months from October 15, amid a steep rise in inventory of polished diamonds due to a sharp fall in exports.
- ❖ Exports of gems and jewellery by India fell nearly 4.4% to \$12.4 billion by value between April to August this year.
- ❖ This is mainly due to reduced demand for polished diamonds from major consumers, the United States and China.

Rough Diamonds refer to diamonds which are still in their natural state after being removed from the earth.

STATUS

- ❖ India cuts and polishes nine out of 10 of the world's rough diamonds
- ❖ The industry is providing employment to two million Indians.
- ❖ Surat in Gujarat is a global hub for diamond manufacturing.
- ❖ India contributes 19% of the total diamond exports in the world.

3. GEOGRAPHY

3.1 SUPER BLUE MOON

- ❖ A **Super Blue moon** was witnessed recently in August.
- ❖ **Super blue moons occur on average every 10 years**, according to **NASA**.
- ❖ The **next Super Blue moon will occur in January 2037**.
- ❖ A **super blue moon** occurs with **convergence of 3 lunar occurrences** - a full Moon, a Supermoon, and a blue Moon.
- ❖ **Blue moon** refers to the **second full moon within a single month**—a rare event since full moons typically occur once a month. When a season experiences four full moons, the third full moon is deemed the blue moon.
- ❖ **Supermoons** occur when the moon passes through its perigee, or the point that takes it closest to Earth during its elliptical orbit.
- ❖ This makes it look about **14% bigger** and **30% brighter** compared to when it is at its furthest point (apogee) and a touch brighter.

3.2 UMIAM LAKE

- ❖ The Meghalaya government has adopted **AI-enabled robotic technology** to keep its tourist hotspot, **Umiyam lake**, free of pollutants.
- ❖ The **AI-powered boat** has the capacity to gather as much as **15 litres of oil** and **200 kilograms of floating refuse daily**, thus making it an economical method for effectively removing waste.

ABOUT UMIAM LAKE

- ❖ The Umiyam Lake is a **reservoir in the hills 15 km north of Shillong** in the state of Meghalaya, India.
- ❖ It is an **artificial lake created by damming the Umiyam River in the early 1960s**.
- ❖ It is more easily recognised as **Bara Pani**, and covers an area of about **220 sq km**.
- ❖ Original purpose was to **store water for hydroelectric power generation**.
- ❖ Today, it also serves as a **major tourist attraction in the state** for **water sport and adventure facilities**.

3.3 HELMAND RIVER

- ❖ **Iran and Afghanistan** have again **locked horns** against the sharing of river waters of **River Helmand**.
- ❖ The Helmand River is the **longest river in Afghanistan**.
- ❖ **Iran and Afghanistan signed a treaty on sharing Helmand's water resources in 1973**.
- ❖ It flows **southwest from Hindu Kush mountains** in **east-central Afghanistan** and across **more than half the length of the country**.
- ❖ **Iran depends heavily on this water for farmland irrigation** and has recently alleged that **Afghanistan was limiting the supply**.

3.4 GATE KEEPERS

- ❖ The **European Commission** recently listed **six tech giants** — **Alphabet, Amazon, Apple, Meta, Microsoft and ByteDance** — as **gatekeepers** under its new **Digital Markets Act**.
- ❖ The term '**gatekeepers**' refers to **massive internet platforms** which the **EU views are restricting access to core platform services**, such as **online search, advertising, and messaging and communications**.
- ❖ The **Digital Markets Act** is a groundbreaking piece of **legislation** that aims to **encourage greater competition in digital markets and ensure greater choice for consumers**.
 - ✓ It aims to **clamp down on anti-competitive practices from big tech players**.
- ❖ The rules could lead to **some big changes for the platforms of Big Tech companies**.

3.5 'NATIONAL DISASTER' TAG

- ❖ **Himachal Pradesh Chief Minister Sukhvinder Singh Sukhu** has requested **Prime Minister Narendra Modi** to declare the destruction caused by heavy rains in the state a national disaster.
- ❖ Rain-related occurrences in Himachal Pradesh cost the state **Rs 10,000 crore** during monsoon.
- ❖ According to the state emergency operation center, **418 people** have died (**265 in rain-related incidents and 153 in road accidents**) since the onset of monsoon on June 24 till September 9, while 39 are missing.

ABOUT NATIONAL DISASTER

- ❖ There is no official or well-defined classification of "**national disasters**."
- ❖ The **2005 Disaster Management Act** defines a "**disaster**" as "**a catastrophe, mishap, calamity**, or grave occurrence in any area, arising from natural or man-made causes, or by accident or negligence, resulting in substantial loss of life or human suffering, or damage to, and destruction of, property, or damage to, or degradation of, the environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community."
- ❖ The Act established the **National Disaster Management Authority (NDMA)**, which would be led by the **Prime Minister**, as well as **State Disaster Management Authorities (SDMAs)**, which would be led by respective **Chief Ministers**.
- ❖ In India, an integrated **Disaster Management setup** was to be built in collaboration with district-level authorities.
- ❖ The Act also resulted in the formation of the **National Disaster Response Force**.

NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA):

- ❖ **The National Disaster Management Authority (NDMA)** is the apex statutory body for disaster management in India.
- ❖ The NDMA was formally constituted on **27 September 2006**, in accordance with the Disaster Management Act, 2005 with Prime Minister as its Chairperson and nine other members, and one such member to be designated as Vice-Chairperson.

3.6 VANADIUM FOUND IN GULF OF KHAMBAT

- ❖ **Vanadium**, a critical raw material for many industrial applications, has been found in sediment samples collected from **Gulf of Khambhat**, which opens into the **Arabian Sea off Alang in Gujarat**.
- ❖ The **war mineral** is scarce in India.
- ❖ As per **Geological Survey of India (GSI)**, it is the **first report of vanadium occurrence in the offshore sediments of India**.
- ❖ Rarely found in its pure form naturally, **vanadium is present in over 55 different minerals**, which makes its **production costly**.
- ❖ At **Gulf of Khambhat**, it has been found in a mineral called **titanomagnetite**, which is **formed when molten lava cools rapidly**.
- ❖ The **vanadiferous titanomagnetite deposits** in the Gulf of Khambhat were possibly drained from the **Deccan basalts mainly through the rivers of Narmada and Tapi**.
- ❖ **Traces of the metal** have so far been found in **Arunachal Pradesh, Karnataka, Odisha and Maharashtra**.
- ❖ **Applications**
 - ✓ Vanadium is a **critical raw material for strategic sectors** such as **defence and aerospace**.
 - For instance, **vanadium containing alloys of titanium and aluminium** are used in **jet engine components and high-speed airframes**.
 - ✓ The metal is **also used for storing energy and in making critical electronic components**.
 - ✓ It is used to make **alloys that are resistant to corrosion, wear and high temperatures**.
 - ✓ It is also used to make **vanadium redox flow batteries**, which are **promising for large-scale energy storage**.

3.7 NAUKHAI JAUHAR

- ❖ PM recently greeted the people **on the auspicious occasion of Nuakhai**.
- ❖ Nuakhai is an **annual harvest celebration in the state of Odisha and adjoining areas of Simdega in Jharkhand**.
- ❖ The word 'nua' translates to **new** and 'khai' means **food** – the name of the festival signifies the **possession of new rice in granaries**.

3.8 MT SEMERU ERUPTS

- ❖ **Mt Semeru volcano in Indonesia's East Java province** erupted recently, spewing hot ashes. Local authorities have warned people to stay away from the area.
- ❖ It is the **highest mountain on the island of Java**.
- ❖ It is the **part of the Island arcs** formed by the **subduction of the Indo-Australian plate** below **Sunda Plate (part of Eurasian Plate)**.
- ❖ Indonesia has the **maximum number of active volcanoes in the world**.
- ❖ It is situated on the **Pacific Ring of Fire**.

3.9 NEANDERTHALS

- ❖ Recent scientific research has revealed that **traits inherited from Neanderthals and Denisovans, another extinct hominin species, continue to influence our health, biology, and even our response to diseases like Covid-19**.
- ❖ Recent studies have **linked Neanderthal DNA to various human traits and diseases**. For instance, researchers have found **connections between Neanderthal genes and a serious hand disease, the shape of people's noses, and even our immune response to pathogens**.
- ❖ The **amount of Neanderthal or Denisovan DNA present in modern humans varies depending on geographical location and ancestral lineage**.
 - ✓ While some **African populations have almost no Neanderthal DNA**, those from **European or Asian backgrounds carry about 1% to 2%**.
 - ✓ **Denisovan DNA is barely detectable in most parts of the world but makes up 4% to 6% of the DNA of people in Melanesia, extending from New Guinea to the Fiji Islands**.
- ❖ These genetic remnants can have **both beneficial and detrimental effects on our health**.
 - ✓ For example, **Neanderthal DNA has been linked to autoimmune diseases like Graves' disease and rheumatoid arthritis**.
 - ✓ On the other hand, **interbreeding with Neanderthals and Denisovans likely bolstered our ancestors' immune systems, providing a quick fix to diseases prevalent in Europe and Asia**.

ABOUT NEANDERTHALS (HOMO NEANDERTHALENSIS)

- ❖ Neanderthals are **our closest extinct human relative**.
- ❖ They lived **throughout Europe and parts of Asia from about 400,000 until about 40,000 years ago**.
- ❖ **Physical features** include long, low skull with a characteristic **prominent brow ridge above their eyes, relatively short and stocky bodies**.
- ❖ They **co-existed with modern humans** for long periods of time before eventually becoming extinct.

ABOUT DENISOVANS

- ❖ Denisovans are also an **extinct species of hominid and were close relatives of Neanderthals**.
- ❖ They lived **lakhs of years ago, coexisting with Neanderthals** in some regions, and **interbreeding with early modern humans** in some cases.
- ❖ The Denisovans are a much more recent addition to the human family tree.
- ❖ They were **first identified as a separate species in 2010**, following the discovery of a fragment of a finger bone and two teeth, dating back to about 40,000 years ago, in **the Denisovan Cave in Siberia**.
- ❖ Denisovan fossils are so rare because **their population was smaller than that of Neanderthals**.

4. ART AND CULTURE

4.1 KOKBOROK

- ❖ Over 260 people were detained in Tripura recently during a **12-hour statewide strike** called by the **Twipra Students' Federation (TSF)** to **press for the introduction of Roman script for Kokborok**, state's indigenous lingua franca.
- ❖ Tripura's script debate centring on Kokborok is several decades old.

ABOUT KOKBOROK LANGUAGE

- ❖ It belongs to **Tibeto-Burman family of languages** and has close affinity with other language family like **Bodo, Garo, Dimasa** etc.
- ❖ Kokborok was **first recognised as an official state language of the state in 1979**.
- ❖ It is **also declared as official language of Tripura Tribal Areas Autonomous District Council**.
- ❖ The language is **spoken by many of Tripura's 19 tribal communities as their first language**.
 - ✓ Tripura has nearly **30 per cent of its 37 lakh population from the tribal communities**.
- ❖ It is recognised as an **official language in the state under its three-language policy** and is **accepted as a medium of communication** by other tribal communities of the state, but it **does not have a script**.
- ❖ The **government set up two commissions under former legislator Shyama Charan Tripura and linguist Pabitra Sarkar to decide the script for it**.

4.2 PULIKALI DANCE

- ❖ A huge Pulikali dance fest was held in **Thrissur, Kerala** to finish to the **Onam** celebrations.

ABOUT PULIKALI DANCE

- ❖ Pulikali, or **dance of the leopards**, has a **history dating back to over 200 years**, as per local people.
- ❖ It was **originally started as a form of entertainment for the local population**, particularly **farmers and labourers**, during the **Onam** festivities.
- ❖ The **art form has evolved over time**, incorporating new themes and designs, while still preserving its cultural significance
- ❖ **Preparation**
 - ✓ The **performers paint intricate detailed designs on their bodies using vibrant colours to resemble tigers**, which may take several hours or even an entire night.
 - ✓ The **costumes typically include masks and accessories that complete the animal's appearance**.
- ❖ The **choreography is essentially miming a tiger that moves on its hind legs**.
- ❖ The **influence of Kalaripayattu, Kerala's martial art, can be clearly seen**.
- ❖ All **movements of the hands and the body are in perfect unison to the rhythmic accompaniment**.
- ❖ The **performances are accompanied by traditional percussion instruments** such as **chenda** (a cylindrical drum) and **thakil** (a pair of cymbals).
- ❖ The **rhythmic beats of these instruments add to the energy of the performance**.

4.3 CULTURAL GIFTS AT G20 SUMMIT

- ❖ **Three gift items**, representing the rich traditional art culture of the country, **will be presented to the spouses of the G20 leaders in a specially curated goodie bag**.
- ❖ **These include-**
 - ✓ A **Cheriyal scroll painting from Telangana**,
 - ✓ a **handwoven Tussar silk stole**,
 - ✓ and a **handcrafted bell metal figurine of a woman made by artisans from Chhattisgarh**.

DETAILS

1. The **Cheriyal scroll painting depicts myths and legends in narrative scrolls.**
 - ✓ Rooted in local and artful motifs, **these paintings are one of the oldest art forms of the region, embodying its rich storytelling traditions.**
 - ✓ It is a **modernized and stylized version of Nakashi art.**
 - ✓ A **rich scheme of colours** is used to **depict the scrolls of narrative format from mythology and folklore.**
 - ✓ It is an **indispensable and inseparable part** of the **profession of Kaki Padagollu, a story telling community.**
 - ✓ Cheriyal scrolls have **geographical indication (GI) tag from Telangana**
2. The **handwoven heritage stoles** have been **meticulously crafted from Tussar silk sourced from the Sal forests of Chhattisgarh.**
3. The **handcrafted bell metal figurine of a woman** preparing food has been **prepared by artisans from Chattisgarh** taking inspiration from their surroundings **using ancient lost-wax technique.**

4.4 KONARK WHEEL

- ❖ A replica of **Konark Wheel** from the Sun temple in Odisha served as the backdrop of Prime Minister Shri. Narendra Modi's welcome handshake with G20 leaders.

ABOUT WHEEL

- ❖ **Konark Wheel** was built during the **13th century** under the reign of **King Narasimhadeva-I.**
- ❖ The wheel with **24 spokes** representing the wheels of Lord Surya's sun chariot.
- ❖ The wheel has also been adapted into **the Indian National Flag.**
- ❖ Its rotating motion symbolises time, **Kaalchakra**, as well as progress and continuous change.
- ❖ It also embodies India's ancient wisdom, **advanced civilisation and architectural excellence.**
- ❖ The iconic wheel also works as a sundial.

KONARK SUN TEMPLE

- ❖ The **Sun Temple at Konârak**, located in Odisha, eastern shores of the Indian subcontinent.
- ❖ The temple is dedicated to the Hindu **Sun God, Surya.**
- ❖ It was built c. 1250 CE by **King Narasimhadeva I (1238-1264 CE)** of the **Eastern Ganga dynasty.**
- ❖ It is a **UNESCO World Heritage Site** known for its exquisite architecture and intricate stone carvings.
- ❖ The temple is in the shape of a chariot, with 12 exquisitely carved wheels and galloping horses.
- ❖ The temple's architecture is an excellent example of the **Kalinga style of architecture** (subset of the nagara style).
- ❖ The temple also features elaborate stone carvings depicting scenes from **Hindu mythology.**

4.5 CHERIYAL SCROLL PAINTING

- ❖ A **Cheriyal scroll painting from Telangana** was among the gifts that first ladies or spouses of heads of state from around the world, who gathered for the **G20 Summit**, received during their visit to the **Indian Agricultural Research (IARI) at Pusa campus.**

ABOUT THE PAINTING:

- ❖ **Cheriyal Scroll Painting** is a popular and modified version of **Nakashi art**, considered highly rich in the local motifs.
- ❖ This painting also received the **Geographical Indication (GI) tag** in the year **2007.**
- ❖ The name **Cheriyal painting** is derived from the **Cheriyal village**, which is located about **90 km from Hyderabad, in the Warangal district of Telangana.**
- ❖ Cheriyal paintings essentially consists of scrolls that depict stories from the **epics, puranas, and folktales**, and was once an integral part of the **religious, social, and cultural lives of the villages in Telangana.**

- ❖ The stories painted on scrolls were mainly from the **Mahabharata, Ramayana, Markandeya purana, Garuda purana**, and various stories from the Krishna leela series, with local heroes also being depicted.
- ❖ This traditional art form is considered an inseparable part of the profession comprising the story-telling and balladeer community called **Kaki Padagollu**.
- ❖ They have displayed these scrolls which are also accompanied by music and dance. The scrolls would be flowing like a film roll, which is usually nearly three feet in width and **about 40 to 45 feet in length, based on the story**.

4.6 'BHARAT: MOTHER OF DEMOCRACY' PORTAL

- ❖ On the eve of the G20 leadership summit, the Ministry of Culture launched a portal of the mega exhibition— **'Bharat: The Mother of Democracy'**.
- ❖ **"Bharat: The Mother of Democracy"** Portal showcases the content on the history of **democracy in India**, showcasing 7,000 years of democratic ethos starting from the **Sindhu-Saraswati civilisation to 2019**.
- ❖ It is available in **16 languages, including German, French, Spanish, Arabic, Portuguese, Italian, Turkish, and Russian besides English and Hindi**.
- ❖ The portal is divided into **five sections and 22 sub-sections** starting from **Sindhu-Saraswati Civilisation (6000-2000BCE), Mahajanapada and Gantantra (7-8 BCE), Vijaynagar Empire (14-16 century), and Mughal emperor Akbar reign (1556-1605) to Constitution of India (1947) and Elections in Modern India (1952 onwards)**.

4.7 DIVYA KALAMELA

- ❖ **Department of Empowerment of Persons with Disabilities (Divyangjan)** organizes unique event showcasing the products and craftsmanship regular Divyang entrepreneurs/artisans from across the country, **'Divya Kala Mela'** to continue the efforts Divyakala mela will be organized from 15-24th September 2023 at Varanasi.

KEY DETAILS:

- ❖ It showcases the products and craftsmanship of Divyang entrepreneurs/artisans from across the country.
- ❖ This is a unique initiative of DEPwD towards economic empowerment of PwD/Divyangjan.
- ❖ **The Divya Kala Mela** presents a bigger platform for marketing and showcasing the products and skills of **Divyangjan (PwD)**.
- ❖ **The Divya Kala Mela, Varanasi** is the seventh one in series starting from 2022.

4.8 SANTINIKETAN IS UN-WHS

- ❖ Rabindranath Tagore's **"abode of peace" Santiniketan**, which **embodies the poet's vision of a place of learning that transcends religious and regional boundaries**, was **officially recognised as a UNESCO World Heritage Site — the 41st in India and third in Bengal**.
- ❖ The **decision to include Santiniketan** on this prestigious list was **made by members of the International Council on Monuments and Sites (ICOMOS) at the 45th session of the World Heritage Committee held in Riyadh**.

ABOUT SANTINIKETAN

- ❖ It is a **town located in Birbhum district of West Bengal**.
- ❖ It was **established by Maharshi Debendranath Tagore in 1862**, father of Nobel laureate Rabindranath Tagore. Later, **Rabindranath Tagore envisioned it as a university town and established a school**.
- ❖ It was set up in 1901 and called **Brahmachary Ashram (was later called Patha Bhavan)**.
- ❖ He also **established Sriniketan** (for rural reconstruction) **Kala Bhavan, Sangit Bhavan** (cultural institutions) and **Visva Bharati university(1921)** at Santiniketan.

- **International Council on Monuments and Sites (ICOMOS)** is a **France-based international body** dedicated to the conservation and enhancement of global architecture and heritage.
- Secretariat- Paris

- ✓ Visva-Bharati in Santiniketan is **Bengal's only central university** whose chancellor is the Prime Minister.
- ❖ Shantiniketan was **founded on the principles of the ancient Indian Gurukul system**, where education was provided in a natural setting, fostering a strong connection between students and their environment.

4.9 HOYSALAS TEMPLES

- ❖ The unique architectural marvels of the **12th century Hoysala era temples** in Karnataka were recognized as the **UNESCO World Heritage Site: 42nd in India and fourth site in Karnataka to get the world heritage tag**.
 - ✓ Other 3 are- monuments at **Hampi (1986)** and **Pattadakal (1987)** along with the **Ecological hotspot Western Ghats (2012)**.
- ❖ The **45th session of the World Heritage Committee** which met in **Riyadh, Saudi Arabia** approved **India's recommendation of the 'Sacred Ensembles of the Hoysals'** comprising **three temples** —
 - ✓ **Channakeshava temple at Belur,**
 - ✓ **Hoysalesvara Temple in Halebidu in Hassan district and**
 - ✓ **Kesav temple at Somanathpur of Mysuru district** as the latest addition to the list of World Heritage Sites.
- ❖ All three temples are **protected by the Archaeological Survey of India (ASI)** and the **nominations were entered as 'The Sacred Ensembles of Hoysalas'**.

ABOUT THE TEMPLES

- ❖ The **temples of Belur and Halebidu** have been on UNESCO's world heritage tentative list since **2014**.
- ❖ The **ensembles of the Hoysalas** consisting of **temples, shrines and associated structures, rich in innate carvings on the stone**, are **scattered across South Interior districts of Karnataka** and have been globally acclaimed tourist destinations in Karnataka.
- ❖ The **Hoysala-style architecture** was created through a **careful selection of contemporary temple features and those from the past to create a different identity from neighbouring kingdoms**.
- ❖ The Hoysala temples are known for **evolving a distinct style that is ornate with temple architecture following a stellate plan built on a raised platform**.
- ❖ The **material used** in temple construction is **choloritic schist** which is also known as **soapstone** that are **soft and amiable to carving**.
- ❖ **Shrines are characterized by-**
 - ✓ **hyper-real sculptures and stone carvings that cover the entire architectural surface,**
 - ✓ **a circumambulatory platform,**
 - ✓ **a large-scale sculptural gallery,**
 - ✓ **a multi-tiered frieze and**
 - ✓ **the sculptures of the Sala legend.**
- ❖ The **Hoysala rulers ruled over parts of Southern India** from the **11th Century to the 14th Century** with **Halebidu (Dwarasamudra)** as their capital.
 - ✓ The **Hoysala era** was considered an **important period in the development of South Indian art, architecture and religion**.
 - ✓ **About 100 plus surviving temples are scattered across Karnataka till date.**
- ❖ While the construction of the **Chennakeshava temple at Belur** in commenced during the **period of king Vishnuvardhana in 1117 CE** and took **103 years to complete**, the **Hoysaleshwara temple** was commissioned in **1121 CE** while the **Keshava temple at Somanathapur in Mysuru district** was commissioned by **Somanatha Dandanayaka** during the regime of **Narasimha III in 1268 CE**.

4.10 CHAUSATH YOGINI TEMPLE

- ❖ From September 19, the **ongoing special House session** moved to the new **Parliament building**.
 - ✓ The **old Parliament will be turned into a museum and called 'Samvidhan Sadan'**.

ABOUT PARLIAMENT BUILDING

- ❖ Designed by **British architects Edwin Lutyens and Herbert Baker** when the British decided to move their capital to New Delhi, the **164-pillared building first housed the Imperial Legislative Council** (From January 18, 1927 to August 15, 1947).
- ❖ After Independence, it served as the **Constituent Assembly of India**, and **once the Constitution was adopted** and India became a republic, as the **Parliament of India, housing the Lok Sabha and the Rajya Sabha**.

ABOUT CHAUSATH YOGINI TEMPLE

- ❖ A **round and pillared structure in India** pre-dates the Parliament by several centuries, and many believe it inspired the 20th century **circular, colonnaded Parliament building**.
- ❖ This structure is the **Chausath Yogini temple in Mitaoli**, in the Morena district of **Madhya Pradesh**.
- ❖ It was **built around 1323** by **King Devapala of the Kachchhapaghata dynasty**.
- ❖ The **Mitaoli temple is circular**, with **64 chambers dedicated to the 64 yoginis**, and a **central shrine dedicated to Shiva**.
- ❖ The **64 yoginis are believed to be powerful warriors and sorceresses**.
- ❖ While most **Hindu temples have a shikhara, or projecting dome**, the **Mitaoli temple, like other Chausath Yogini temples, is hypaethral, which means it has no roof**.
- ❖ The **Parliament-like pillars are on the inside of the stone temple complex**.
- ❖ The **central shrine has a slab with perforations, for excess rainwater to drain off**.
- ❖ The temple has a **diameter of 125 feet**.

4.11 SAMVASTRI

- ❖ **Samvatsari** was observed on September 20, 2023.
- ❖ Samvatsari is **considered to be one of the most auspicious day for Jain community people**.
- ❖ This day is celebrated by the Jain community people with great happiness and joy.
- ❖ **Samvatsari or Kshmavani is the last day of Paryushan festival**.
- ❖ These people say "**Michami Dukkadam**" to all their beloved people and **seek forgiveness from them**.
 - ✓ **Forgiving other people and seeking forgiveness is the main purpose** of celebrating this festival.

ABOUT PARYUSHAN PARV

- ❖ Shwetambars celebrate this festival for **eight long days** while **Digambar celebrate this for 10 days**.
- ❖ It is also called **Das Lakshan Parv** by **Digambar Jains**.
- ❖ It is **observed as the period of daily fasting, confession and inner reflection**.
- ❖ The **five main vows** are emphasized during this time- **Ahimsā**(Non-violence), **Satya** (Truth), **Asteya** (Non-stealing), **Brahmacharya** (Chastity), **Aparigraha** (Non-possession).

4.12 STATUE OF ONENESS

- ❖ Madhya Pradesh Chief Minister recently unveiled a **108-foot-tall statue of the 8th-century spiritual leader Adi Shankaracharya in Omkareshwar town**.
- ❖ The foundation stone for a Rs 2,200-crore '**Advait Lok**', which will contain a **museum**, situated on Omkareshwar Mandhata Hill, **overlooking the Narmada river**, was also laid.

ABOUT STATUE OF ONENESS

- ❖ The '**Statue of Oneness**', conceptualised around six years ago, **depicts Shankaracharya as a 12-year-old child when he is said to have visited Omkareshwar**, which has **one of the twelve Jyotirlinga shrines** — said to be the **most sacred abodes of Shiva**.
 - ✓ **Adi Shankaracharya, who was born in what is now Kerala, is said to have arrived at Omkareshwar as a young monk**, where he **encountered his guru Govind Bhagwadpad**, resided in the sacred city for four years, and received his education.
- ❖ Weighing **100 tonnes**, the statue was conceptualised by an Indian team of artists, a sculptor and engineers.

- ❖ The **metal casting was done in China's Nanchang city** and shipped to Mumbai in several batches.
- ❖ The idol, **installed on a 75-foot platform**, is made up of **bronze that contains 88% copper, 4% zinc and 8% tin**.
 - ✓ Its **internal structure is made-up of high-quality steel**.
- ❖ The **design for the statue was conceptualised by painter Vasudeo Kamath**, who found inspiration in **Raja Ravi Verma's depiction of Shankaracharya**.

Other statues

Statue of Equality on the **outskirts of Hyderabad** to commemorate the **11th-century Bhakti saint Sri Ramanujacharya** on his 1,000th birth anniversary.

In 2018, **Statue of Unity in Gujarat's Kevadia** was inaugurated in memory of former deputy Prime Minister **Sardar Vallabhbhai Patel**.

4.13 SRIMANTA SANKARDEVA

- ❖ The **575th birth anniversary of medieval saint Srimanta Sankardeva** was celebrated recently.

ABOUT SRIMANTA SANKARDEVA

- ❖ He was an **Assamese saint-scholar, social-religious reformer, poet, playwright** and a **towering figure** in the **cultural and religious history of 15th-16th century in Assam**.
- ❖ He was a **Vasnav-saint** and **propagated** a form of Bhakti called **eka-sharana-naam-dhrama**, and **espoused a society based on equality and fraternity, free from caste differences, orthodox Brahmanical rituals and sacrifices**.
 - ✓ It considered **Lord Krishna** to be one, eternal and absolute.
- ❖ He is widely credited with **building on past cultural relics and devising new forms of**
 - ✓ **theatrical performance (Ankia Naat, Bhaona)**,
 - ✓ **music (Borgeet)**,
 - ✓ **literary language (Brajavali)** and
 - ✓ **dance (Sattriya)**.
- ❖ His teaching focused on **prayer and chanting (naam)** instead of idol worship.
- ❖ His dharma was based on the **four components of deva (god), naam (prayers), bhakats (devotees), and guru (teacher)**.
- ❖ He even influenced two medieval kingdoms in Assam- **Koch and the Ahom kingdoms**
- ❖ The **assembly of devotees he founded**, evolved over time into **monastic centers known as Sattras**.

4.14 INDIA'S FIRST EVER LIGHTHOUSE FESTIVAL

- ❖ The **country's first-ever lighthouse festival** was observed in the **state of Goa**.
- ❖ It was **organized** by the **Union Ministry of Ports, Shipping, and Waterways**.
- ❖ It is part of a **grand vision to transform 75 lighthouses across India into thriving tourist hubs**.

4.15 SARNA CODE

- ❖ Recently Jharkhand's CM penned a letter to PM urging the **acknowledgment of the 'Sarna' religious practices among tribal communities**.
- ❖ He highlighted that the **tribal population in the state has decreased from 38 percent to 26 percent over the past eight decades**.

ABOUT SARNA FAITH

- ❖ Followers of Sarna faith regard themselves as **belonging to a distinct religious group, and are nature worshippers**.
- ❖ The **holy grail of the Sarna faith** is **"Jal (water), Jungle (forest), Zameen (land)"** and its **followers pray to the trees and hills while believing in protecting the forest areas**.

- ❖ Believers of Sarna faith **do not practice idol worship, nor do they adhere to the concept of the Varna system, heaven-hell, etc.**
- ❖ The **followers are largely concentrated in the tribal belt states of Odisha, Jharkhand, Bihar, West Bengal, and Assam.**
- ❖ Several surveys and reports have indicated that **over 50 lakhs tribal people in the entire country put their religion as 'Sarna' in the 2011 census, although it was not a code.**

4.16 TOTO LANGUAGE

- ❖ A **dictionary for Toto language** will be released soon.
- ❖ In the **trilingual dictionary, Toto Shabda Sangraha**, Toto words will be **translated into Bengali and English, and will be composed in the Bengali script.**
- ❖ The dictionary has **been compiled by Bhakta Toto**, a bank employee-cum-poet.

ABOUT TOTO LANGUAGE

- ❖ It is a **language spoken by barely 1,600 people living in parts of West Bengal bordering Bhutan.**
- ❖ Toto is a **Sino-Tibetan language spoken by the tribal Toto people and is written in the Bengali script.**
- ❖ Even though **prominent community member Dhaniram Toto developed a script as recently as in 2015, most people either write it in Bengali script or write in Bengali language.**
 - ✓ **Dhaniram Toto**, who is like a **cultural father of the Totos**, got a **Padma Shri in 2023.**

4.17 INDIA'S FIRST CARTOGRAPHY MUSEUM

- ❖ India's **first cartography Museum, the Sir George Everest Cartography Museum**, was inaugurated recently in **Mussoorie, Uttarakhand.**
- ❖ It is built at a cost of **Rs 23 crore 52 lakh at Sir George Everest House and dedicated it to the great mathematician Radhanath Sikdar and Pandit Nain Singh Rawat.**
- ❖ Various discoveries made by **George Everest and his colleagues**, and the **instruments** used to measure the height of Everest, are on display.

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5. SCIENCE AND TECHNOLOGY

5.1 WORLD'S 1ST BS-6 STAGE-II, ELECTRIFIED FLEX FUEL VEHICLE

- ❖ Prototype of **World's 1st BS-6 Stage-II, Electrified Flex fuel vehicle**, developed by **Toyota Kirloskar Motor** was launched recently.
- ❖ It is **based on the Innova Hycross** and is engineered to adhere to **India's stricter emission standards**.

ABOUT ELECTRIC FLEX FUEL VEHICLE

- ❖ An **Electrified Flex Fuel Vehicle** has **both a Flexi Fuel engine** and an **electric powertrain**.
- ❖ This gives it **ability to provide dual benefit of higher ethanol use** and **much higher fuel efficiency** as is in case of a **Strong Hybrid Electric Vehicle (SHEV)**, which can provide **30-50% higher Fuel Efficiency** as it can run **40-60% in EV mode with engine shut off**.

5.2 LIGO-INDIA

- ❖ After Chandrayaan and Aditya L1, the next big thing thing happening in India to reveal deep mysteries of space is **the Laser Interferometer Gravitational Wave Observatory project or LIGO-India**.
- ❖ Gravitational waves are **ripples in the fabric of space-time, caused by moving celestial objects**.
- ❖ A spherical body like Earth, when **squeezed from one side tends to elongate in the other side**, just like a rubber ball would behave when squeezed. It is **this behaviour that LIGO uses to detect gravitational waves**.

ABOUT LIGO-INDIA

- ❖ It is **coming up in Maharashtra's Hingoli district**.
 - ✓ **The area is part of the underdeveloped Marathwada region of Maharashtra.**
- ❖ LIGO-India will be the **third node of the LIGO Laboratory in the US**, which has observatories in **Hanford (Washington) and Livingston (Louisiana)**.
- ❖ The **design is exactly the same as that of the two existing LIGO facilities in the United States**.
 - ✓ **The observatory will have a Corner Station and two 4-km long arms, essentially vacuum chambers, each with a diameter of 1.2 metres and in a piped casing that stretch out in an L-formation.**
- ❖ Once completed, **LIGO-India will join a global network of gravitational-wave observatories** that includes **Virgo in Italy and KAGRA in Japan**.
- ❖ The LIGO observatory is **expected to commence operations by 2030** with an **expected life of 30 years**.
- ❖ It **will be built by Department of Atomic Energy and Department of Science and Technology**.

THEORY

- ❖ Albert Einstein predicted gravitational waves , in **1915**, in his **General Theory of Relativity**.
- ❖ He proposed that **open space, or rather space-time, wasn't something that was fixed, inert or transparent**, but **was affected by the presence, and movement, of celestial bodies like planets and stars**.

DETECTION

- ❖ At the **end of the two vacuum chambers are placed highly-reflective mirrors. Light rays released into both the vacuum chambers hit the mirrors, get reflected and are captured back**.
 - ✓ **In normal circumstances, the light rays in both the chambers would return simultaneously.**
 - ✓ **But when a gravitational wave arrives, one of the chambers gets a little elongated, while the other one gets squished a bit.**
 - ✓ **In this case, light rays do not return simultaneously and there is a phase difference. The presence of a phase difference marks the detection of a gravitational wave.**

APPLICATION

- ❖ A **large part of the universe is known to be completely 'dark', with no electromagnetic radiation coming from these areas**. These areas remain invisible to human beings.
- ❖ Gravitational waves offer scientists a **completely new window for looking at the universe**.

5.3 SANDES APP

- ❖ **Delhi Police is using Sandes app for secure communication on G20.**
- ❖ Sandes is being used by police inspectors and Commissioners.

ABOUT SANDES APP

- ❖ The mobile application, developed by **National Informatics Centre (NIC)**, was launched in August, 2020.
- ❖ The app is **available on Android, iOS and also has a desktop version.**
- ❖ The app **allows exchange of information securely.** The documents being shared by users follows a secure internet protocol and **can only be viewed on the app.**
- ❖ Sandes platform **provides the functionality to mark a message as Confidential, on Priority or as Auto Delete.**
- ❖ **Sandes app is difficult to hack and documents sent across cannot be copied by any other user as individual and group chat messages are end-to-end encrypted.**
- ❖ It has been **downloaded on the government-issued phones of police officers and not on their private devices.**

ABOUT NIC

- ❖ **National Informatics Centre (NIC)** under the **Ministry of Electronics and Information Technology (MeitY)** is the **technology partner of the Government of India.**
- ❖ It was **established in 1976** with an **objective to provide technology-driven solutions to Central and State Governments in various aspects of development.**
- ❖ NIC has been **instrumental in adopting and providing Information and Communication Technology (ICT) and eGovernance support to Central Government.**

5.4 URANIUM ENRICHMENT

- ❖ According to one of the **confidential quarterly reports to member states**, the **International Atomic Energy Agency** said **Iran's stockpile of uranium enriched to up to 60% purity**, closer to the **roughly 90% of weapons grade**, **continued to increase albeit at a slower pace**, despite some of it having been diluted.
- ❖ **Natural uranium consists of two different isotopes – nearly 99% U-238 and only around 0.7% of U-235.**
 - ✓ **U-235 is a fissile material that can sustain a chain reaction in a nuclear reactor.**
- ❖ Enrichment process **increases the proportion of U-235** through the **process of isotope separation (U-238 is separated from U-235).**

USE OF ENRICHED URANIUM

- ❖ For **nuclear reactors**, enrichment is required upto **3-4%** which is known as **Low Enriched Uranium/reactor-grade uranium.**
- ❖ **Highly enriched uranium** has a **purity of 20% or more** and is **used in research reactors.**
- ❖ For **nuclear weapons**, enrichment is required upto **90% or more** which is known as **weapons-grade uranium.**

5.5 G20 SATELLITE MISSION

- ❖ **India** has proposed to launch the **G20 satellite mission for environment and climate observation** in the recently held G20 Summit.
- ❖ It aimed to help the countries of **Global south for environment and climate observation.**
- ❖ The climate and weather data obtained from this will be shared with all the countries, especially the countries of the Global South.
- ❖ India invites all G-20 countries to join this initiative.
- ❖ **Other missions** - India had earlier launched a satellite for the benefit of the SAARC countries, popularly called **SAARC Satellite**, in 2017 as a part of its 'neighbourhood first policy.
- ❖ India has also been working with the US on the world's most sophisticated dual-band **NASA-ISRO satellite (NISAR).**
- ❖ India and U.S. commenced discussions on joint efforts for **the International Space Station in 2024.**

5.6 LITHIUM PRODUCTION THROUGH STRING TECHNOLOGY

- ❖ Presently, Lithium production is **an extremely resource-intensive and time-consuming process**.
- ❖ A large majority of the lithium produced in the world is **extracted from “brine reservoirs” located in salt flats**.
- ❖ This method of production can **require hundreds of square kilometres**, and it **often takes months or even years to produce lithium that can be used in batteries**.
- ❖ **University of Princeton engineers** have developed a **new string-based technology that could change that**.

NEW TECHNIQUE

- ❖ The researchers used **a set of porous fibres twisted into strings and engineered them to have a water-loving (hydrophilic) core and water-repelling surface**.
- ❖ When one **end is dipped in a salt-water solution**, the **water travels up the string because of capillary action**.
 - ✓ This is the same process used by trees to raise water from roots to leaves.
- ❖ Then, the **water evaporates quickly from the string’s surface**. This leaves **behind salt ions such as sodium and lithium**.
- ❖ The water will continue to evaporate like this as the salts become increasingly concentrated, **eventually forming sodium chloride and lithium chloride crystals**.
 - ✓ This can **be harvested relatively easily**.
- ❖ Since **lithium and sodium** have different physical properties, they **crystallise at different locations on the strings**.
 - ✓ **Sodium**, with its low solubility, **crystallises on the lower part**, while the **highly soluble lithium salts crystallise near the top**.

Demand forecast-

The total demand for lithium was 500,000 metric tons of lithium carbonate equivalent in 2021 and it is expected to grow to between two to three million tons in 2030, according to McKinsey.

The **Lithium Triangle** is a region of the Andes rich in lithium reserves around the borders of **Argentina, Bolivia and Chile**.

ADVANTAGE

- ❖ The researchers estimate that it **can cut the amount of land required by 90 per cent while accelerating the evaporation technique by more than 20 times**.
- ❖ It will also allow us to **look into new areas to extract lithium from**. For example, **defunct oil and gas wells and geothermal brines that are currently considered too small or too diluted for lithium extraction could become viable sources**.

5.7 miRNA LET-7

- ❖ Scientists have identified a single, **small strand of microRNA, or miRNA, that plays a critical role in fighting cancer**.
- ❖ The team at the **University of Massachusetts-Amherst in the US** found that the **microRNA, called let-7, also has the ability to recognise and remember tumour cells like T-cells**.
 - ✓ This cellular memory is the **basis for how vaccines work**.

ABOUT MIRNA

- ❖ These are **short non-coding Ribonucleic Acids (RNAs) containing 20–24 nucleotides**.
- ❖ **It is a single-stranded small RNA molecule**.
- ❖ It plays a role in **the regulation of gene expression and gene silencing**.
- ❖ It is **present naturally in plants, animals and some viruses**.

MECHANISM

- ❖ **T-cells, which are white blood cells that specialise in fighting both pathogens, think of the common cold, and altered cells of the organism itself, like tumor cells**.

- ❖ When the T-cells recognise foreign antigens in our bodies, they turn into killer T-cells and attack whatever the pathogen may be, from the sniffles to Covid, or even cancer.
 - ✓ After the killer T-cells have won their battle, most of them die.
- ❖ However a few survive and transform into memory cells and form an elite task force called the 'memory pool'.
 - ✓ They remember what that particular antigen looked like, so that they can be on the lookout for the next time it invades the body.
 - ✓ But, cancerous tumour cells work by tricking the killer T-cells, turning them off before they can attack and create a memory pool, leaving the cancer to metastasize unchecked.

Memory cells possess stem-cell-like features and can live for 70 years.

ABOUT LET-7

- ❖ A tiny piece of miRNA, let-7 is highly expressed in memory cells.
- ❖ The more let-7 a cell has, the less chance that it will be tricked by cancerous tumour cells, and the greater chance it has of turning into a memory cell.
- ❖ Let-7 miRNA has been handed down the evolutionary tree since the dawn of animal life.

5.8 CELL BROADCAST ALERT SYSTEM

- ❖ The Department of Telecommunications (DoT) in collaboration with the National Disaster Management Authority (NDMA) will be conducting comprehensive testing of the Cell Broadcast Alert System in various States in the coming days.
- ❖ The Cell Broadcast Alert System represents a cutting-edge technology that empowers the government to disseminate critical and time-sensitive disaster management messages to all mobile devices within specified geographical areas, regardless of whether the recipients are residents or visitors.
 - ✓ This ensures that crucial emergency information reaches as many individuals as possible promptly.
- ❖ The emergency alerts have been reportedly tested on Bharat Sanchar Nigam Limited and Reliance Jio's networks, as well as, on Bharti Airtel and Vodafone Idea's networks.
- ❖ The technology has been developed by the Centre for Development of Telematics or C-DoT.
- ❖ This initiative aims to bolster emergency communication during disasters and prioritise the safety and well-being of our esteemed citizens.
- ❖ Common applications of cell broadcast include delivering emergency alerts such as severe weather warnings (like tsunamis, flash floods, earthquakes), public safety messages, evacuation notices, and other critical information.

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6. DEFENCE

6.1 SPAMOUFLAGE

- ❖ Facebook parent Meta has **shut down** a so-called "Spamouflage" campaign to **covertly boost China's image on its platforms**.
- ❖ Meta said it **removed some 7,700 Facebook accounts plus hundreds of other pages, groups and Instagram accounts that pushed pro-China narratives online**.
- ❖ The **accounts typically praised China and its policies in Xinjiang, and criticized the United States, Western foreign policy, and individuals critical of Beijing, including journalists**.
- ❖ **Similarities were found with the Russian network that Meta first exposed in 2019 which was later dubbed "Secondary Infektion"**.

6.2 MQ-9 REAPERS

- ❖ India's plans to **procure General Atomics MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial vehicles (UAV)**.
- ❖ **31 of armed UAVs will be acquired, among which 15 SeaGuardians will be for the Indian Navy and 16 SkyGuardians (eight each) will be for the Indian Army and Air Force**.

ABOUT REAPER DRONE

- ❖ The Reaper drone is **deployed mainly as an intelligence-collection asset and secondarily against dynamic execution targets**.
- ❖ Decoding the MQ-9 Reaper, the 'M' is the DoD designation for multi-role, the 'Q' stands for **remotely piloted aircraft system**, and the '9' suggests that it is the ninth in the series.
- ❖ The drone **provides capability to launch strike and reconnaissance against time-sensitive targets**.
- ❖ The MQ-9 **can perform numerous missions including surveillance, combat search and rescue, intelligence, precision strike and terminal air guidance**.
- ❖ The **baseline system** of the drone has the **Multi-Spectral Targeting System (MTS-B)** which **harbours an infrared sensor, shortwave infrared camera, laser designator, visual sensors for aiming, and laser illuminator**.
- ❖ The **high-altitude long-endurance (HALE) drones are capable of remaining airborne for over 35 hours and can carry four Hellfire missiles and around 450 kg of bombs**.
- ❖ The **drone can carry up to eight laser-guided missiles, Air-to-Ground Missile-114 Hellfire which gives low-collateral damage, anti-armour, and anti-personnel engagement capabilities**.
- ❖ The **drone can be disassembled and fit into a single container for deployment**.

6.3 BRIGHT STAR EXERCISE

- ❖ Indian Navy's **INS Sumedha reached at Port Alexandria, Egypt, to take part in 'Exercise Bright Star-23.'**
 - ✓ **India is participating in this exercise for the first time.**
- ❖ This **multinational Tri-Services military exercise marks a historic occasion, with 34 countries participating, making it the largest joint military exercise ever held in the Middle East and North Africa region**.
- ❖ It comprises of 2 phases- **harbor phase and sea phase**.

6.4 C-295 MW AIRCRAFT

- ❖ The Indian Air Force received the first C-295MW transport aircraft from Airbus in Seville, Spain.

ABOUT C-295 MW AIRCRAFT:

- ❖ It is a transport aircraft of **5-10 tonne** capacity.
- ❖ It will replace the legacy Avro aircraft in the **Indian Air Force (IAF)** procured in the 1960s.
- ❖ It is a versatile and efficient tactical transport aircraft which can perform a number of different missions.
- ❖ Under the contract, **16 aircraft** will come in fly-away condition from Seville, while 40 will be manufactured by Airbus jointly with **Tata Advanced Systems Ltd. (TASL)**.

FEATURES

- ❖ The aircraft, with a flight endurance of up to **11 hours**, can carry out multi-role operations under all weather conditions.
- ❖ It can routinely operate day as well as night combat missions from **desert to maritime environments**.
- ❖ It can also operate on short, unprepared airstrips as it is capable of **Short Take-off and Landing (STOL)**.
- ❖ It has a rear ramp door for quick reaction and para dropping of troops and cargo. Short take-off/land from semi-prepared surfaces is another of its features.
- ❖ It can be converted into an air tanker that can deliver up to **6,000 kg of gasoline** to fixed and rotary wing receivers by adding a detachable refueling kit.
- ❖ **Airborne Early Warning (AEW)**: It has a cutting-edge radar with 360-degree coverage to give a complete picture of the airspace in its Airborne Early Warning variant.
- ❖ **Water-Bomber**: The **C-295** can be transformed into a powerful water bomber that can put out forest fires with up to **7,000 litres** of water due to a flexible roll-on/roll-off system.
- ❖ It is equipped with a close-air-support operation that uses an **Intelligence Surveillance and Reconnaissance (ISR)** with a multi-mission radar that can also be weaponised.
- ❖ The aircraft can be utilised for **casualty or medical evacuation** as well as airdropping loads and paratroopers.
- ❖ It is equipped to handle special missions, disaster relief operations, and maritime patrol responsibilities.

6.5 SAMUDRA PRAHARI

- ❖ **Indian Coast Guard (ICG) ship Samudra Prahari**, a specialised pollution control vessel, is currently on an overseas deployment to ASEAN countries.
- ❖ This deployment is **part of India's ASEAN initiatives for marine pollution response**, showcasing the pollution response capabilities of the ICG and its commitment to addressing marine pollution issues and enhancing capacity in the region.
- ❖ The ship is **equipped with a Chetak helicopter in pollution response configuration**, enhancing its capabilities in the area.

6.6 DHANUSH ARTILLERY GUNS

- ❖ The Army, which has ordered **114 Dhanush artillery guns**, and **has one regiment operational already**, is **expecting to receive all the guns by 2026**.

ABOUT DHANUSH GUNS

- ❖ Dhanush is a **155 mm, 45-calibre towed artillery gun** with a **range of 36 km**, and it has demonstrated a range of 38 km with specialised ammunition.
- ❖ It is an **upgrade of the existing 155 mm, 39-calibre Bofors FH 77 gun**.
- ❖ The **Advanced Weapons and Equipment India Limited**, carved after corporatisation of the Ordnance Factory Board, now **manufactures the Dhanush guns**.
- ❖ It is the **first indigenously built long-range artillery gun**.
- ❖ Features include
 - ✓ **Inertial navigation system with global positioning system- (GPS) based gun recording and auto-lying,**

- ✓ an enhanced tactical computer for onboard ballistic computations and an onboard muzzle velocity recording.
- ✓ Automated gun sighting system equipped with camera, thermal imaging and laser range finder.

6.7 PRALAY MISSILE

- ❖ The Defence Ministry has cleared the proposal of buying a regiment of Pralay tactical ballistic missiles for the Indian Army.
- ❖ It is the first time that a ballistic missile will be inducted into the services for conventional operations.

ABOUT PRALAY MISSILE

- ❖ IT can strike targets at 150–500 km.
- ❖ It is propelled by a solid-propellant rocket motor.
- ❖ Speed- Mach 1 to 1.6
- ❖ It is capable of carrying a conventional warhead of about 350 kg to 700 kg.
- ❖ It can also carry a high explosive preformed fragmentation warhead, penetration-cum-blast (PCB) and runaway denial penetration submunition (RDPS).
- ❖ It incorporates cutting-edge technologies in its guidance system, including state-of-the-art navigation and integrated avionics.
- ❖ It exhibits the capability to alter its trajectory mid-flight after covering a certain distance.
- ❖ 'Pralay' is classified as a quasi-ballistic surface-to-surface missile, featuring advanced capabilities designed to thwart interceptor missiles.
- ❖ The Pralay missiles are currently being mass-produced and are expected to be ready for operational service soon.

6.8 SPRINT CHALLENGE

- ❖ The 'SPRINT Challenges', are aimed at giving a boost to the usage of indigenous technology in the Indian Navy, and the Navy is committed to developing at least 75 technologies/ products as part of the 'Azadi ka Amrit Mahotsav'.
 - ✓ For this, 75 challenges were presented to startups and MSMEs.
- ❖ SPRINT is a collaborative initiative being undertaken in conjunction with the Defence Innovation Organisation (DIO) and stands for Supporting Pole-Vaulting in R&D through Innovations for Defence Excellence (iDEX), NIO and Technology Development Acceleration Cell (TDAC).

6.9 OPERATION SAJAG

- ❖ 'Operation Sajag' was conducted by the Indian Coast Guard (ICG) along the west coast.
- ❖ 'Operation Sajag' is a monthly, day-long drill that serves as a continuous feedback loop.
- ❖ The drill's primary goals are to revalidate coastal security mechanisms and raise awareness among sea-going fishermen.

6.10 SIMBEX-2023

- ❖ Navies of India and Singapore have begun a week-long bilateral maritime exercise, SIMBEX, in the southern parts of the South China Sea for which the two countries have deployed a submarine each.
- ❖ Indian Navy's Rajput-class destroyer INS Ranvijay, Kamorta-class corvette INS Kavaratti, submarine INS Sindhukesari, and a P-8I maritime patrol aircraft are taking part in the three-decade-old annual exercise.
 - ✓ It was first held in 1994.
- ❖ SIMBEX is conducted in two phases.
 - ✓ The land phase of the exercise will involve table-top exercises and planning discussions while,
 - ✓ The sea phase will see the navies engage in various naval drills, including anti-submarine warfare and live weapon firing.

6.11 YUDH ABHYAAS

- ❖ The 19th edition of YUDH ABHYAS is set to commence in Alaska, USA.
- ❖ It is an annual exercise between the Indian Army and the US Army.
- ❖ It is aimed at strengthening military cooperation and readiness.
- ❖ The exercise will also involve an exchange of views and best practices in drills on a wide spectrum of military skills, including combat engineering, obstruction clearance, and improvised explosive device warfare.

7. SPACE

7.1 CE-20 ENGINE

- ❖ Indian Space Research Organisation's Liquid Propulsion Research Centre (IPRC) in Mahendragiri, has successfully tested the CE-20 cryogenic rocket engine.
- ❖ It will be used in ISRO's 'Mission Gaganyaan'.
- ❖ The cryogenic engine CE – 20 is to be used in the upper stage of the Launch Vehicle Mark – 3.
- ❖ It is the first Indian cryogenic engine to feature a gas-generator cycle.
- ❖ It uses liquid hydrogen and liquid oxygen for producing thrust.

ABOUT MISSION GAGANYAAN

- ❖ It envisages demonstration of human spaceflight capability by launching crew of 3 members to an orbit of 400 km for a 3 days mission and bring them back safely to earth, by landing in Indian sea waters.

7.2 COMET NISHIMURA

- ❖ As per NASA, Comet Nishimura could become visible to the naked eye in second week of September.
- ❖ The comet was discovered in mid-August by amateur astronomer Hideo Nishimura.
- ❖ Since then, the comet, officially called C/2023 P1 Nishimura, has increased in brightness as it went forward on its path in the inner solar system.
- ❖ The comet is angularly near the Sun so even if it is visible, you will only be able to spot it early before sunrise or late before sunset.
- ❖ The comet completes an orbit around the Sun once every 435 years.

WHAT ARE COMETS?

- ❖ Comets are cosmic snowballs of frozen gases, rock and dust that orbit the Sun.
- ❖ They are leftovers from the formation of the solar system.
- ❖ Typically, they range from a few kilometres to tens of kilometres wide.
- ❖ But as they orbit closer to the Sun, they spew out gases and dust, which forms the tails that they are famous for.

7.3 BUBBLE OF GALAXIES

- ❖ Astronomers have discovered the first "bubble of galaxies," recently.
- ❖ **Bubble of galaxy** is an unimaginably huge cosmic structure measuring one billion light-years across that is thought to be a fossilized remnant from just after the Big Bang.
- ❖ The bubble spans **820 million light years** away from the milkyway.
- ❖ The heart of the bubble is the Bootes supercluster of galaxies, which is surrounded by a vast void sometimes called "the Great Nothing".

- ❖ The bubble contains several other galaxy superclusters, including the massive structure known as the **Sloan Great Wall**.
- ❖ Formation - The discovery confirms a phenomenon first described in **1970 by US cosmologist Jim Peebles**.
- ❖ He theorised that in the primordial universe the churning of gravity and radiation created sound waves called **Baryon Acoustic Oscillations (BAOs)**.
- ❖ As the sound waves rippled through the plasma, they created bubbles.
- ❖ **Around 380,000 years after the Big Bang** the process stopped as the universe cooled down, freezing the shape of the bubbles.
- ❖ The bubbles then grew larger as the universe expanded, similar to other fossilised remnants from the time after the **Big Bang**.

7.4 MARS OXYGEN IN-SITU RESOURCE UTILIZATION EXPERIMENT (MOXIE)

- ❖ NASA announced the successful completion of its **Mars Oxygen In-Situ Resource Utilization Experiment (MOXIE) aboard the Perseverance Mars Rover**.

ABOUT MOXIE:

- ❖ It was sent by **NASA** on the Perseverance and made by the **Massachusetts Institute of Technology (MIT)**.
- ❖ It works like a tree, splitting carbon dioxide absorbed from the atmosphere to produce pure oxygen.
- ❖ The instrument produced 6 grams of oxygen per hour, similar to a moderate-sized tree.
- ❖ Inside Moxie, Martian air is first filtered in and pressurised.
- ❖ It is then sent through the **Solid OXide Electrolyzer (SOXE)**, which electrochemically splits the carbon dioxide-rich air into oxygen ions and carbon monoxide.
- ❖ The oxygen ions are isolated and recombined to form breathable, **molecular oxygen (O₂)**.

7.5 JUNO MISSION

- ❖ Recently, in a captivating display of celestial beauty, **NASA's Juno mission has treated space enthusiasts to an extraordinary photo of Jupiter and its volcanic moon, Io**.
- ❖ This breathtaking image was taken just **hours before NASA's Juno mission completed its 53rd close flyby of Jupiter on July 31, 2023**.

ABOUT JUPITER

- ❖ It is the **fifth and largest planet** in our solar system.
- ❖ The size of Jupiter is **more than twice as massive as all the other planets combined**.
- ❖ The **stripes and swirls of the Jupiter** are cold, windy **clouds of ammonia and water**.
- ❖ These are **floating in an atmosphere of hydrogen and helium**.
- ❖ The planet **also has several rings**, but unlike the famous rings of Saturn, Jupiter's rings are **very faint and made of dust**.

JUPITER MOONS

- ❖ Jupiter has more than 80 moons and **4 largest of these are- Io, Europa, Ganymede and Callisto**.
- ❖ They were **first discovered by the astronomer Galileo Galilei in 1610**.
- ❖ The **surface of Io** is the **most volcanically active in the solar system**.
 - ✓ Io is marked by **hundreds of regularly erupting volcanoes along with molten lava and sulfurous gases**.

ABOUT JUNO MISSION

- ❖ It was **launched by NASA in 2011** and entered a **polar orbit of Jupiter on July 5, 2016**, to begin a scientific investigation of the planet.

- ❖ Aim: To **probe beneath Jupiter's dense clouds and the origin and evolution of Jupiter, solar system, and giant planets in general across the cosmos.**
- ❖ After completing its mission, **Juno will be intentionally deorbited into Jupiter's atmosphere.**

7.6 XPOSAT

- ❖ India's space agency, **ISRO**, is preparing to launch its **first polarimetry mission, XPOsat, by the end of the year.**
- ❖ The mission **will study bright astronomical X-ray sources and provide vital information on the nature and behaviour of celestial objects.**
- ❖ XPOsat is **India's first space mission to measure the polarisation of light and will help scientists understand emissions from black holes, neutron stars, and other challenging astronomical sources.**
 - ✓ This will be the **second polarimetry mission in the world, following NASA's IXPE mission.**
- ❖ **The mission will carry two payloads —**
 - ✓ **POLIX (Polarimeter Instrument in X-rays)** which will measure the polarimetry parameters including the degree and angle of polarization, **in medium X-ray energy range of 8-30 keV photons of astronomical origin,** and
 - ✓ **XSPECT (X-ray Spectroscopy and Timing) payload** which will give **spectroscopic information in the energy range of 0.8-15 keV.**

ABOUT POLARIMETRY

- ❖ **Polarimetry is a powerful tool that allows astronomers to infer information about celestial objects, from passing comets to distant galaxies.**
- ❖ The polarimetry measurements **add two more dimension to our understanding,**
 - ✓ The **degree of polarization** is the proportion of an electromagnetic wave that is polarized while
 - ✓ The **angle of polarization** is the angle at which light of a certain polarization is perfectly transmitted through a transparent surface.
 - ✓ It is **an excellent diagnostic tool to understand the emission processes from astronomical sources**

7.7 OSIRIS-REX

- ❖ After traveling for **over 4 billion miles (6.2 billion kilometers) to reach Asteroid Bennu** and then **make the journey home,** the **OSIRIS-REx probe released its sample return capsule** while it was about **63,000 miles (101,000 km) above Earth.**
- ❖ The **capsule contains some 250 grams (8.8 ounces) of rocks and other material from Bennu.**
- ❖ This material could **help answer some of scientists' most burning questions about the origins of life on Earth and the early days of our solar system.**

ABOUT OSIRIS-REX

- ❖ **OSIRIS-Rex stands for (Origins, Spectral Interpretation, Resource Identification, Security- Regolith Explorer).**
- ❖ **It is NASA's first mission to collect an asteroid sample.**
- ❖ **Timeline**
 - ✓ **launched in 2016,**
 - ✓ **arrived at Bennu in 2018 and**
 - ✓ **collected samples of the asteroid in 2020.**
- ❖ **Manufactured by Lockheed Martin Space systems.**

JAXA has two such missions under its belt.

That agency's **Hayabusa 1** collected materials from asteroid **Itokawa** and returned them in **2010,** and **Hayabusa 2** returned sampled of asteroid **Ryugu** in **2020.**

ABOUT BENNU ASTEROID

- ❖ It is located about **200 million miles** away from the Earth and was formed in **first 10 million years of solar system's creations.**

- ❖ It has **not gone through a lot of composition-altering change through billions of years**, which means that **below its surface lie chemicals and rocks from the birth of the solar system.**
- ❖ **It was discovered by a team from the NASA-funded Lincoln Near-Earth Asteroid Research team in 1999.**
- ❖ **Bennu is a B-type asteroid, i.e., it contains significant amounts of carbon and various other minerals.**

7.8 GALACTIC TIDES

- ❖ Like the earth's oceans at their shores, the **universe's galaxies also experience tides**, but on a much larger scale.
- ❖ Galactic tides are **caused by gravitational forces within a galaxy**, arising in the **interactions between celestial objects like stars and gas clouds.**
- ❖ These **tidal forces influence various aspects of a galaxy's evolution.** They can **reshape a galaxy structure** by creating **tidal tails and bridges**, promoting **star formation**, and **disrupting smaller star systems.**
- ❖ Over aeons, galactic tides **also disrupt the orbits of stars**, leading to **long-term changes in galactic structure.**
- ❖ Galactic tides **also have a say in the ways in which proximate galaxies do and don't interact.**
- ❖ Galactic tides **also affect the supermassive black holes at galaxy centres**, leading to **events that change the ways in which these cosmic beasts interact with nearby stars.**
 - ✓ In fact, researchers have found that the **tidal streams near edges of Andromeda Galaxy** could be **signatures of dwarf galaxies that were later devoured.**

The **Andromeda galaxy** is the **closest galaxy to the Milky Way.**

It is **heading towards the Milky Way at 110 km/s** and **will collide in four billion years.**

7.9 CE20 ENGINE

- ❖ **ISRO successfully completed the CE20 E13 engine hot test for the Gaganyaan qualification and 22-tonne thrust qualification.**
- ❖ The **engine developed by the Liquid Propulsion Systems Centre (LPSC), Valiamala** was tested at **ISRO Propulsion Complex (IPRC), Mahendragiri, Tamil Nadu.**
- ❖ The **CE20 engine** is a vital component, serving as the powerhouse of the **Cryogenic Upper Stage (CUS)** responsible for **propelling the upper stage (C25) of the Launch Vehicle Mark-3 or LVM3 vehicle.**
- ❖ It has demonstrated its capability by successfully operating at a **thrust level of 19 tonnes in six successive LVM3 missions**, including the **Chandrayaan-2, Chandrayaan-3, and two commercial OneWeb missions.**
- ❖ The CE20 engine hardware **referred to as E13** was selected for **both Gaganyaan qualification and 22-tonne thrust level operations.**

LVM3 is configured as a **three stage vehicle** with **two solid strap-on motors (S200)**, one **liquid core stage (L110)** and a **high thrust cryogenic upper stage (C25).**

8. ENVIRONMENT

8.1 WALKING LEAVES

- ❖ An international research team has described seven previously unknown species of leaf insects, also known as walking leaves.

ABOUT WALKING LEAVES

- ❖ They are any of over 50 species of flat, generally green insects (order Phasmida or Phasmatodea) with a distinct leaflike appearance.
- ❖ They are generally brown or green, with some being somewhat speckled or having serrated edges, similar to nibbled leaves.
- ❖ **Global distribution-** their native range stretches from Indian Ocean islands to areas of mainland South Asia and Southeast Asia, as well as Papua New Guinea and Australia in the western Pacific.
- ❖ They prey on vegetation and like highly forested places.
- ❖ Males tend to be smaller than females.
- ❖ Their arms and legs can regenerate.
- ❖ Males are able to fly for short distances because of highly developed hind legs whereas females cannot fly.
- ❖ They're also largely nocturnal resulting in a relative lack of movement during the day.

8.2 RED SAND BOA

- ❖ A Wildlife Conservation Society (WCS)-India report has pointed out 172 incidents of seizures of red sand boa between the years 2016-2021.

ABOUT RED SAND BOA

- ❖ Scientific name-Eryx johnii
- ❖ It is a non-venomous snake species belonging to the Boidae family.
- ❖ Also called a "Two-headed snake" due to its round tail that looks like a head.
- ❖ **Distribution-** found across the Indian subcontinent, including India, Pakistan, Sri Lanka, and parts of Bangladesh.
- ❖ These snakes are predominantly nocturnal.
- ❖ They primarily feed on small mammals like rodents, birds and their eggs.
- ❖ The red sand boa is acknowledged as one of the most traded reptile species in the illegal trade market, due to its demand in the pet trade, as well as for use in black magic.
- ❖ The red sand boa is classified as 'Near Threatened' by the International Union for Conservation of Nature (IUCN), with a 'decreasing' population trend in most of their habitat ranges.
- ❖ Red Sand Boas are ovoviparous (meaning that they give birth to live young instead of laying eggs)

8.3 RENEWABLE ENERGY TECHNOLOGY ACTION PLATFORM

- ❖ The Ministry of New and Renewable Energy (MNRE) and the US Department of Energy held a meeting recently to launch the new US-India Renewable Energy Technology Action Platform (RETAP) under Strategic Clean Energy Partnership.
- ❖ The RETAP was established to further bilateral collaboration with a result-oriented, time-bound technology focus.
- ❖ DOE and MNRE outlined an Renewable Energy Technology Action Platform (RETAP). Work is guided by five themes:
 - ✓ Research and Development,
 - ✓ Piloting and Testing of Innovative Technologies,
 - ✓ Advanced Training and Skill Development,

- ✓ Policy and Planning for Advancing RET and
- ✓ Enabling Technologies, Investment, Incubation and Outreach programmes.
- ❖ RETAP's initial focus is to be on green/clean hydrogen, wind energy, and duration energy storage and to explore geothermal energy, ocean/tidal energy and other emerging technologies as mutually determined in the future.

8.4 KAKAPO

- ❖ To safeguard the kakapo – a unique New Zealand parrot – the genomes of nearly all remaining individuals have been sequenced, providing vital information for conservation management.

ABOUT KAKAPO

- ❖ Scientific name- **Strigops habroptila**
- ❖ It is the heaviest parrot in the world, with some males exceeding 3 kilograms, and is thought to have the longest lifespan, up to 90 years.
- ❖ It is the only parrot species that can't fly, instead climbing trees or foraging on the ground to find food like nuts and seeds.
- ❖ It is the only lek-breeding parrot species in the world.
- ❖ The green-coloured birds were once widespread throughout New Zealand, but now only 250- odd individuals are left that are managed by New Zealand's Department of Conservation in partnership with Maori groups on five predator-free islands.

A lek is an aggregation of males that gather to engage in competitive displays that may entice visiting females who are surveying prospective partners for mating.
- ✓ Predators include cats and dogs etc.
- ❖ They only breed when rimu trees put out masses of fruit (rimu mast years) – every two to four years.
- ❖ Threats: Predators, disease, genetic inbreeding, infertility
- ❖ IUCN red list status – 'critically endangered'

8.5 BHORAMDEO WILDLIFE SANCTUARY

- ❖ The Chhattisgarh high court has dismissed a public interest litigation (PIL) that aimed to designate the Boramdeo Wildlife Sanctuary (BWS) as a tiger reserve and the Chilpi Range as a buffer zone.
- ❖ The court's decision was primarily based on the failure to comply with legal procedures, including consultation with local Gram Sabhas and obtaining consent from the affected communities.

ABOUT BHORAMDEO WILDLIFE SANCTUARY

- ❖ It is located in the Kawardha district of Chhattisgarh and is part of the Maikal Range of the Satpura Hills.
- ❖ It shares a border with Kanha National Park in Madhya Pradesh, making it an important tiger habitat in central India.
- ❖ Area- 325 sq. km (approx)
- ❖ This sanctuary serves as the origin for the Fen and Sankari rivers.
- ❖ The Boramdeo Wildlife Sanctuary holds ecological significance and is home to various tribal communities.
- ❖ Flora- sal, saja, tinsa, kara, and haldu.
- ❖ Fauna includes wild dogs, sloth bears, sambar deer, barking deer, tigers, leopards, , chital (spotted deer), gaur (Indian bison), and numerous bird and reptile species.

8.6 WILD DOGS

- ❖ Villagers in Theerthahalli taluk, Shivamogga district of Karnataka, were treated to a rare sighting of an Asiatic Wild Dog group, also known as Dholes recently.

ABOUT ASIATIC WILD DOG

- ❖ Scientific name- **Cuon alpinus**
- ❖ The Asiatic Wild Dog, also known as kadunai, selunai, or the red dog, is an elusive and wolf-like forest-dwelling creature that tends to avoid human contact.
- ❖ Its name 'Seelunai' is derived from the distinctive whistling sounds it produces.

- ❖ These creatures are known to travel in packs and are referred to as Asiatic Wild Dogs (Dhole) in English.
- ❖ **Global distribution-** Majorly found in the forests of central, south, and southeast Asia.
 - ✓ In India, they are found in three clusters across India namely the Western and Eastern Ghats, central Indian landscape and North East India.
- ❖ **Threats-** Habitat loss, prey base depletion, Persecution due to livestock predation, disease from domestic dogs etc.
- ❖ Conservation status-
 - ✓ IUCN red list- Endangered
 - ✓ CITES- Appendix II

8.7 ASSESSMENT REPORT ON INVASIVE ALIEN SPECIES AND THEIR CONTROL

- ❖ Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) in its new publication – the “Assessment Report on Invasive Alien Species and their Control” – has found that there are 37,000 alien species, including plants and animals, that have been introduced by many human activities.
 - ✓ These include more than 3,500 invasive alien species and that invasive alien species have played a key role in 60% of global plant and animal extinctions recorded.
- ❖ The report says invasive alien species are one of the five major direct drivers of biodiversity loss globally, alongside land and sea use change, direct exploitation of organisms, climate change, and pollution.
- ❖ The study, which has taken place over a period of four years, has been by 86 leading experts from 49 countries, drawing on more than 13,000 references.
- ❖ About 6% of alien plants; 22% of alien invertebrates; 14% of alien vertebrates; and 11% of alien microbes are known to be invasive, posing major risks to nature and to people.
- ❖ Nearly 80% of the documented impacts of invasive species on nature’s contribution to people are negative.
- ❖ **Exmaples**
 - ✓ The water hyacinth is the world’s most widespread invasive alien species on land.
 - ✓ Lantana, a flowering shrub, and the black rat are the second and third most widespread globally.
 - ✓ The brown rat and the house mouse are also widespread invasive alien species.

IAS are plants, animals, pathogens and other organisms that are non-native to an ecosystem, and which may cause economic, environmental harm or adversely affect human health.

ABOUT IPBES

- ❖ IPBES is an independent intergovernmental body established to strengthen the science-policy interface for biodiversity and ecosystem services, working in a similar way to the IPCC, which is the UN’s climate science body.
- ❖ It has 143 member States including India.
- ❖ Established in 2012 on the basis of Busan outcome document.
- ❖ Seat of secretariat is located in Bonn, Germany.

8.8 KYLINXIA ZHANGI

- ❖ Researchers have investigated a nearly 520 million year old fossil of *Kylinxia zhangii* with a CT scanner and redescribed the animal.
- ❖ The fossil, which was uncovered near the town of Chengjiang in the Yunan Province of southern China, has the entire animal preserved.
- ❖ *Kylinxia* is among the 250 or so extremely well preserved fossil animals described from the region, which are together known as Cambrian Chengjiang biota.
- ❖ *Kylinxia* is related to the arthropods, whose bodies are divided into segments each bearing a pair of jointed limbs, including crabs, lobsters, insects and spiders.

- ❖ New findings revealed that **Kylinxia sported three eyes on its head, along with a pair of claws that was possibly used to catch prey.**

8.9 RIVER RANCHING OF CHITALA FISH

- ❖ **River ranching of the state fish of Uttar Pradesh Chitala will be carried out to increase its population in natural water sources like the Ganga.**
- ❖ **This initiative aims to balance the aquatic ecosystem, increase the income of fish farmers, and provide a protein-rich diet to the public.**
- ❖ **The river ranching event in Varanasi released over 1 lakh Chitala fish into the Ganga as part of the Chitala Conservation and Promotion Project.**

WHAT IS RIVER RANCHING?

- ❖ **It is a form of aquaculture in which a population of a fish species is held in captivity for the first stage of their lives.**
- ❖ **They are then released, and later harvested as adults when they return from the sea to their freshwater birthplace to spawn.**

ABOUT CHITALA FISH

- ❖ **Chitala is a species of fish known for its nocturnal predatory behavior, primarily preying on smaller fish.**
- ❖ **Also known as –Indian featherback or Indian knifefish**
- ❖ **It is mostly known from major river channels (Indus, Ganges-Brahmaputra and Mahanadi river basins) and freshwater lakes but has also been observed in swamps.**
- ❖ **Distribution -It is native to the Indian subcontinent, including regions of Pakistan, India, Nepal, and Bangladesh.**
- ❖ **IUCN red list status ‘Near Threatened’**

8.10 ECOCIDE

- ❖ **Mexico’s Maya train project has been described as a “megaproject of death” — it imperils the Yucatán peninsula’s rich wilderness, ancient cave systems and indigenous communities.**
- ❖ **The Tribunal for the Rights of Nature said the project caused “crimes of ecocide and ethnocide”.**

ABOUT ECOCIDE

- ❖ **Ecocide, derived from Greek and Latin, translates to ‘killing one’s home’ or ‘environment’.**
- ❖ **There is no accepted legal definition of ecocide, but Ecocide as defined by the Stop Ecocide Foundation.**
 - ✓ **Ecocide is the “unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.”**
- ❖ **Biologist Arthur Galston in 1970 is credited by the first to link environmental destruction with genocide, which is recognised as an international crime, when referring to the U.S. military’s use of Agent Orange (a herbicide) during the Vietnam War.**
- ❖ **British Lawyer Polly Higgins proposed that the Rome Statute should be amended to treat crimes against nature on par with crimes against people.**
- ❖ **Ecocide is a crime in 11 countries, with 27 other nations mulling laws around criminalising environmental damage that is willfully caused and harms humans, animals and plant species.**

At present, the Rome Statute of the ICC deals with four atrocities: genocide, crimes against humanity, war crimes and the crime of aggression.

The provision on war crimes is the only statute that can hold a perpetrator responsible for environmental damage, albeit if it is intentionally caused and during wartime situations.

8.11 INDIA'S FIRST SOLAR CITY

- ❖ The **World Heritage Site Sanchi** in **Madhya Pradesh's Raisen district** has become **India's first solar city**.
- ❖ It has a **capacity of 3 megawatts** in **Nagauri near Sanchi**, which will **reduce annual carbon dioxide emissions by 13,747 tonnes**.
- ❖ This is **equivalent to more than 2,38,000 trees**.

8.12 SAMBAR DEER

- ❖ The presence of a **leucistic sambar** has been **documented in the Sangama range of Cauvery Wildlife Sanctuary in Karnataka**.
- ❖ This is the **first recorded photographic record of a white form of sambar** from this landscape though a **white form of sambar deer was previously recorded in Bandipur Tiger Reserve in 2014**.

ABOUT SAMBAR DEER

- ❖ Scientific name- **Rusa unicolor**.
- ❖ The **sambar is a large deer species** that is **native to the Indian subcontinent and Southeast Asia**.
- ❖ **Characteristics-**
 - ✓ The sambar is **known for its large and rugged antlers, shaggy coat, and a small but dense mane**.
 - ✓ Sambar are **nocturnal or crepuscular animals**.
 - ✓ The **males live alone for much of the year, while the females live in small herds of up to 16 individuals**.
- ❖ **Distribution-** **South Asia as far north as the south-facing slopes of the Himalayas in Nepal, Bhutan, and India, and in mainland Southeast Asia including Burma, Thailand, Indochina, the Malay Peninsula, Indonesia (Sumatra and Borneo), Taiwan, and South China**.
- ❖ **Threats-** **hunting, local insurgency, and industrial exploitation of habitat**.
- ❖ The sambar is **listed as a vulnerable species as per the IUCN Red List**.

WHAT IS LEUCISM?

- **Leucism is a condition in which the pigmentation of an animal's skin is missing, causing white or pale skin**.
- This **condition can occur naturally from birth due to a phenotype** (a trait of any living being) that may have formed from a defect in the animal's development.
- It is **different from albinism which is a condition that arises due to a lack of melatonin in the animal's skin, but the animal has pink or reddish eyes. But in leucism the animal lacks the pink eyes**.

8.13 GREEN CLIMATE FUND

- ❖ **United Kingdom Prime Minister Rishi Sunak** announced a record climate aid commitment of **\$2 billion** for the **Green Climate Fund** on the last day of the two-day G20 Summit in New Delhi.

ABOUT GCF:

- ❖ The **GCF was set up in 2010 under the UNFCCC's** financial mechanism to channel funding from developed countries to developing countries to allow them to mitigate climate change and also adapt to disruptions arising from a changing climate.
- ❖ **The Green Climate Fund** will support projects, programmes, policies and other activities in developing country Parties using thematic funding windows.
- ❖ It is intended to be the centrepiece of efforts to raise **Climate Finance of \$100 billion a year by 2020**.
- ❖ The Fund will promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or **reduce their greenhouse gas emissions** and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change.
- ❖ The Fund will strive to maximize the impact of its funding for adaptation and mitigation, and seek a balance between the two, while promoting **environmental, social, economic and development co-benefits and taking a gender-sensitive approach**.

8.14 ONE SUN, ONE WORLD, ONE GRID INITIATIVE

- ❖ A day-long conference on “**Transnational Grid Interconnections for One Sun, One World, One Grid (OSOWOG)**” was recently held in New Delhi.
- ❖ The idea for the OSOWOG initiative was put forth by the Prime Minister of India, at the First Assembly of the **International Solar Alliance (ISA)** in October 2018.
- ❖ The initiative aims at connecting energy supply across borders.
- ❖ It aims to connect different regional grids through a common grid that will be used to transfer renewable energy power and, thus, realise the potential of renewable energy sources, especially solar energy.
- ❖ The project is being spearheaded by the governments of India and the **UK in partnership with the International Solar Alliance (ISA) and the World Bank Group.**

When will it be completed?

- ❖ The grid is expected to be set up over the next few years by the ISA. Once operational, it will transport solar power to different countries.

International Solar Alliance (ISA):

- ❖ **The ISA is an intergovernmental** organisation that was launched in **2015** by the Prime Minister of India and the President of France at the United Nations Climate Change Conference held in Paris.

8.15 BHOJ WETLAND

- ❖ **National Green Tribunal (NGT) has prohibited operation of cruise and other motor propelled boats in Upper Lake (Bhoj Wetland now called Ramsar site) and other wetlands.**

ABOUT:

- ❖ The **Bhoj Wetland** is situated in the Indian state of **Madhya Pradesh**, specifically in the capital city of Bhopal.
- ❖ **The Bhoj wetland, also known as Bhopal Lake, is a Ramsar site**, designated as a wetland of international importance under **the Convention of Wetlands signed in 1971.**
- ❖ Bhoj wetland received Ramsar site status in 2002, highlighting its global significance for conservation.
- ❖ **Environment Protection Act, 1986**, enacted to safeguard the environment and empower the Central Government to prevent pollution and address environmental issues.
- ❖ The wetland comprises two major lakes - **the Upper Lake and the Lower Lake.** These two lakes together form the Bhoj Wetland.
- ❖ The wetland is rich in biodiversity, hosting macrophytes, phytoplankton, zooplankton, various fish species, resident and migratory birds, insects, reptiles and amphibians.

8.16 BANDIPUR TIGER RESERVE (BTR)

- ❖ The **Karnataka Forest Department** recently directed the **Bandipur Tiger Reserve’s eco-sensitive zone (ESZ)** monitoring panel to act against illegal cottages built within the reserve’s ESZ.

ABOUT BANDIPUR TIGER RESERVE (BTR):

- ❖ It is situated in two contiguous districts (**Mysore and Chamarajanagar**) of Karnataka and located at the tri-junction area of the States of **Karnataka, Tamil Nadu and Kerala.**
- ❖ Geographically, it is an “**ecological confluence**” of the Western and Eastern Ghats.
- ❖ It was established in **1931 as Venugopala Wildlife Park by the Maharaja of Mysore.**
- ❖ It was then expanded with the name **Bandipur Tiger Reserve under Project Tiger in 1973.**
- ❖ It is part of the larger **Nilgiri Biosphere Reserve**, which is recognised as a **UNESCO World Heritage Site.**
- ❖ BTR is surrounded by **Nagarahole Tiger Reserve(Tamil Nadu) in the North West (Kabini Reservoir separates the two).**
 - ✓ **Mudumalai Tiger Reserve(Tamil Nadu) in the South.**
 - ✓ **Wayanad Wildlife Sanctuary(Kerala) in the South West.**
- ❖ It is surrounded **by River Kabini in its north and River Moyar in its south.**
- ❖ Bandipur has a typical tropical climate with distinct wet and dry seasons.

Flora:

- ❖ It comprises diverse vegetation ranging from dry deciduous to tropical mixed deciduous.
- ❖ It includes rosewood, Indian kino tree, sandalwood, Indian laurel, clumping bamboo, giant clumping bamboo etc.

Fauna:

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

8.17 'GREEN RAILWAY CERTIFICATION

- ❖ **Vijayawada Railway Station** has been awarded the '**Green Railway Station**' certification with the highest rating of Platinum by the **Indian Green Building Council (IGBC)** for its efforts in improving environmental standards and providing eco-friendly services to passengers.
- ❖ This is an upgrade of the station's ratings, from gold in **2019 to platinum in 2023**.
- ❖ This is a moment of pride for the **Vijayawada railway station**, second in the **South-Central Railway (SCR)** zone after **Secunderabad** to have bagged the platinum rating.

8.18 THE GLOBAL STOCKTAKE REPORT

- ❖ The United Nations climate secretariat made public a '**synthesis report**' on the results of three meetings held so far to discuss progress achieved by countries in achieving the goals of the **Paris Agreement of 2015**.

WHY IS IT CALLED THE 'GLOBAL STOCKTAKE' REPORT?

- ❖ The synthesis report ties into a larger exercise called the '**global stocktake**,' that is expected to take place once in five years.
- ❖ In **2015**, countries committed in Paris to keep global temperatures from rising beyond **2 degrees Celsius** by the end of the century and "**as far as possible**" below **1.5 degrees Celsius**.
- ❖ Here they also agreed to periodically review, or take stock of efforts, made by individual countries in containing greenhouse gases and transitioning their fossil-fuel dependent energy systems to **renewable sources**.

KEY FINDINGS

- ❖ The report states that the **Paris Agreement** has galvanised countries into setting goals and signalling the urgency of the climate crisis.
- ❖ **Governments** need to support ways to transition their economies away from fossil fuel businesses and that states and communities must strengthen efforts.
- ❖ While rapid change could be disruptive, countries should work on ensuring that the economic transition be equitable and inclusive.
- ❖ It stated that much more ambition was needed to reduce global greenhouse gas emissions by **43% by 2030 and further by 60% in 2035 and reach net zero CO2 emissions by 2050 globally**.
- ❖ Renewable energy has to be scaled up and **all 'unabated fossil fuels'** (for example, coal plants without carbon capture and storage mechanisms) were to be rapidly eliminated.
- ❖ **Deforestation and land-degradation** have to be halted and reversed.
- ❖ Agricultural practices critical to reducing emissions and conserving and enhancing carbon sinks have to be encouraged.
- ❖ Transparent reporting on adaptation could facilitate and enhance understanding, implementation and international cooperation.
- ❖ **Averting, minimising and addressing 'loss and damage,'** requires urgent action across climate and development policies to manage risks comprehensively and provide support to impacted communities.
- ❖ Financial flows needed to be made consistent with climate-resilient development to meet urgent and increasing needs.
- ❖ Access to climate finance in developing countries needed to be enhanced.

CONCLUSION:

- ❖ This document for the first time formally recognises the massive jump in finance necessary for the world to transition to a renewable energy economy.
- ❖ The Declaration noted the need for **USD 5.8-5.9 trillion in the pre-2030 period** required for developing countries as well as **USD 4 trillion per year for clean energy technologies by 2030 to reach net zero by 2050.**

8.19 TONGA VOLCANIC ERUPTION

- ❖ Some commentators have speculated in recent weeks that the **Hunga Tonga-Hunga Ha'apai volcanic eruption in January 2022 is to blame for searing summer temperatures** this year.
- ❖ It was **one of the biggest volcanic eruptions in recorded history.**
- ❖ Detonating **underwater with the force of 100 Hiroshima bombs, the blast sent millions of tons of water vapor high into the atmosphere.**

IMPACT

- ❖ **Massive volcanic eruptions usually reduce temperatures because they spit out vast amounts of sulfur dioxide, which form sulfate aerosols that can reflect sunlight back into space and cool Earth's surface temporarily.**
 - ✓ But the **Tonga eruption had another effect because it occurred underwater.**
 - ✓ The **Hunga Tonga-Hunga Ha'apai eruption is peculiar** because, in addition to causing the largest increase in stratospheric aerosol in decades, it **also injected vast amounts of water vapor into the stratosphere.**
- ❖ **Water vapor is a natural greenhouse gas** that absorbs solar radiation and traps heat in the atmosphere.
- ❖ Several studies have proposed that, **due to its larger and more persistent water vapor plume, the eruption could have a temporary net surface warming effect.**

GEOGRAPHICAL LOCATION

- ❖ The volcano is **located in the Tonga island of the South Pacific Ocean.**
- ❖ It is **part of the Tonga–Kermadec Islands volcanic arc formed due to the subduction of the Pacific Plate under the Indo-Australian Plate.**
- ❖ It occurs along the **Ring of Fire.**

8.20 PROJECT CHEETAH COMPLETES ONE YEAR

- ❖ The **first batch of eight cheetahs from Namibia arrived on September 17, 2022, officially launching Project Cheetah, India's cheetah introduction programme.**

PROJECT CHEETAH

- ❖ The **goal of the introduction of African cheetahs is to "establish viable cheetah metapopulation in India that allows the cheetah to perform its functional role as a top predator and provides space for the expansion of the cheetah within its historical range thereby contributing to its global conservation efforts."**
- ❖ Translocated to- **Kuno National Park, Madhya Pradesh**
- ❖ **Target- 50 Cheetahs to be introduced in various National Parks over five years.**
- ❖ **Project Implementation by: National Tiger Conservation Authority, a statutory body under Ministry of Environment, Forest and Climate Change(MoEFCC).**

POPULATION STATUS

- ❖ In total, **20 adult African cheetahs have been imported so far- 8 from Namibia and 12 from South Africa.**
 - ✓ **Six of the cheetahs which came from Africa have died.** Four while still in captivity and two in the wild.
- ❖ In late March 2023, **one of the females gave birth to a litter of four cubs which were conceived in India.**
 - ✓ **3 of the four cubs have died and the only remaining cub is being hand reared as its mother has rejected it.**

ABOUT CHEETAHS

- ❖ **A keystone species of dry forests, scrub forests, and savannahs.**
- ❖ **The cheetah is the fastest land animal.**

- ❖ **Global distribution**
 - African Cheetah- **Found all over the African continent in thousands of numbers.**
 - Asiatic Cheetah- **Found only in Iran with less than 100 individuals left.**
- ❖ **African Cheetah is slightly larger than the Asiatic counterpart.**
- ❖ **Protection status**
 - **IUCN Red list status**
 - African Cheetah- **Vulnerable**
 - Asiatic Cheetah- **Critically Endangered**
- ❖ **CITES –Appendix 1**

8.21 ANAMUDI SHOLA NATIONAL PARK

- ❖ The **Pazhathottam area in Anamudi Shola National Park**, near **Munnar**, in **Idukki** has transformed into a **green heaven teeming with life**, thanks to an initiative by the Forest department.
- ❖ **Munnar Wildlife Division** converted a park filled with exotic species of trees into **50 hectares of forest land**.
- ❖ The project was implemented through the **United Nations Development Programme (UNDP)**. It was started in 2019 and completed in 2022.

ABOUT ANAMUDI SHOLA NATIONAL PARK

- ❖ It is a **protected area** located along the **Western Ghats of Idukki district in Kerala state**.
- ❖ It is **surrounded by Eravikulam National Park, Pampadum Shola National park, Chinnar Wildlife Sanctuary and Mathikettan Shola Park**.
- ❖ It was **declared as a National Park in the year of 2003**.
- ❖ It consists of **three Shola Reserve Forests - Pannavan shola, Pullaradi shola and Indivara shola**.
- ❖ Vegetation consists of **southern subtropical hill forests, southern montane wet temperate forests and moist deciduous forests**.
- ❖ **Fauna** includes **Elephant, Tiger, Panther, Indian Bison, Nilgiri tahr, Gaur, Spotted Deer, Sambar, Giant Grizzled Squirrel, Common Langur, Sloth Bear, Flying Squirrels etc.**

ABOUT SHOLAS

- ❖ **Shola forests are tropical Montane forests found in the valleys separated by rolling grasslands and only in the higher elevations.**
- ❖ They **occur only in the valleys where there is least reach of the fog and mist**.
- ❖ They are **found only in South India in the Southern Western Ghats high altitude mountains in the states Karnataka, Kerala and Tamil Nadu**.
 - ✓ **Nowhere else in the world exists such a kind of forests.**

8.22 JOINT CALL TO ACTION FOR FORESTS TOWARDS 2030

- ❖ The **Collaborative Partnership on Forests (CPF)** has launched the **Joint Call to Action for Forests towards 2030**.
- ❖ They aim to **highlight the need for increased action and political commitment to implement forest solutions** in pursuit of the **United Nations-mandated Sustainable Development Goals (SDG)**.
- ❖ The Call to Action for Forests Towards 2030 has **four focal areas**:
 - ✓ **Implementation and action;**
 - ✓ **data, science and innovation;**
 - ✓ **finance for forests; and**
 - ✓ **communication and awareness-raising.**

ABOUT COLLABORATIVE PARTNERSHIP ON FORESTS

- ❖ **Collaborative Partnership on Forests is an innovative voluntary interagency partnership of 16 global organisations** chaired by the **United Nations Food and Agriculture Organization (FAO)**.
- ❖ **Established in 2001 by Economic and Social Council of the UN (ECOSOC)**

- ❖ **Mission-** to enhance the contributions of forests to the Sustainable Development Goals, the Global Forest Goals and other international commitments.
- ❖ The **core functions** of the CPF are to:
 - ✓ **support the work of UN Forum on Forests (UNFF)** and its member countries;
 - ✓ **provide scientific and technical advice** to the Forum and governing bodies of other CPF members, at their request;
 - ✓ enhance **coherence, cooperation as well as policy and programme coordination at all levels**
 - ✓ promote the **implementation of the UN Forest Instrument and the United Nations Strategic Plan for Forests** as well as the contribution of forests and trees to the 2030 Agenda for Sustainable Development and other major forest-related agreements.

8.23 WINDS PORTAL

- ❖ The government recently unveiled a manual of the **Weather Information Network Data Systems (WINDS)** portal.
 - ✓ The portal was launched in July 2023 by the **Ministry of Agriculture and Farmers' Welfare**.
 - ✓ It **leverages advanced weather data analytics** to provide **stakeholders with actionable insights** on weather for **informed decision-making in agriculture**.
- ❖ This **comprehensive manual** also provides **stakeholders with an in-depth understanding of the portal's functionalities, data interpretation, and effective utilisation, empowering farmers, policymakers and various agricultural entities to make well-informed choices**.
- ❖ The portal also **addressed the need of parametric crop insurance scheme** of the ministry, in addition to **non-scheme parametric insurance programmes** for **crop risk mitigation and disaster risk reduction and mitigation being run by the insurance industry**.

8.24 BATILLIPES KALAMI

- ❖ Researchers have **identified a new species of marine tardigrade** and named it **after the late former President and scientist A.P.J. Abdul Kalam**.

ABOUT TARDIGRADES

- ❖ **Tardigrades** are **extremely tiny animals whose size is measured in micrometres**.
- ❖ They are **known for their extraordinary resilience and survival instincts**.
- ❖ These water-dwelling animals also go by the rather unlikely moniker **'water bears.'**
- ❖ The **marine species are smaller than their terrestrial counterparts** and also **tougher to identify**.

ABOUT BATILLIPES KALAMI

- ❖ The **new species**, discovered from **Mandapam (close to Dr Kalam's native place Rameswaram) in south-east Tamil Nadu**, belongs to the **genus Batillipes** and has been named **Batillipes kalami**.
- ❖ **Batillipes kalami** is the **second marine tardigrade to be discovered from Indian waters** and the **first one from the east coast**.
- ❖ It is **also the first taxonomically described species belonging to the genus Batillipes from India**
- ❖ **Batillipes kalami** averages **170 micrometres (0.17 mm) in length** and **around 50 micrometres (0.05 mm) in width**.
- ❖ It **has a trapezoid-shaped head with sharp-tipped filament-like appendages (cirri) extending from it**.
- ❖ **All four pairs of legs possess sensory spines** of varying length.
- ❖ The **females are slightly bigger compared to the males**.
- ❖ **Batillipes kalami** is the **37th species of the genus Batillipes**.
 - ✓ Although **Batillipes** is a globally distributed genus, previous reports and studies are **predominantly Eurocentric**.

In 2021, the **first marine tardigrade species from India were discovered at Vadakara in Kerala**.

It was named **Stygartus keralensis**.

8.25 TUNGARESHWAR WILDLIFE SANCTUARY

- ❖ The **4.6 km long underground tunnel** for crossing the **Tungareshwar wildlife sanctuary** is now finished.
 - ✓ It is a **part of Surya Regional Water Supply Project**.

ABOUT TUNGARESHWAR WILDLIFE SANCTUARY

- ❖ It is situated in the **Vasai-Virar area of the Thane district, Maharashtra**.
- ❖ Area- **85 sq.km**
- ❖ It **forms a corridor** between **Sanjay Gandhi National Park (also known as Borivali National Park)** and **Tansa Wildlife Sanctuary**.
- ❖ The famous **Tungareshwar Temple, dedicated to Lord Shiva** is situated here.
- ❖ The sanctuary's diverse habitats including littoral forests and hills, which are home to
- ❖ Vegetation is **Dry Deciduous, Moist Deciduous and Semi Evergreen type with species** including **teak, mango, bamboo** etc.
- ❖ **Fauna** includes- **leopards, wild boars, barking deer, langurs, bonnet and rhesus macaques, among other animals**.
 - ✓ **Birds** such as **Crested Serpent-eagle, Jungle Owlet, White-eyed Buzzard, Oriental Honey-buzzard, Emerald Dove and Heart-spotted Woodpecker** are also found here.

8.26 FELINE PANLEUKOPENIA VIRUS

- ❖ In the last one month, **seven leopard cubs** at **Bannerghatta Biological Park in Bengaluru** have died after being infected by a **contagious virus, feline panleukopenia**.
- ❖ It is a **viral disease of cats** caused by the **feline parvovirus**.
- ❖ This is the **first time a Feline panleukopenia outbreak has occurred at the Bannerghatta Biological Park**.
- ❖ The infection results in sudden depletion of all types of **white blood cells** and **affects the bone marrow**.
- ❖ It **also attacks the gastro-intestinal line**. The visible signs include vomiting, severe diarrhea, nasal discharge and dehydration.

8.27 INDIAN SKIMMER

- ❖ The **endangered Indian Skimmer** was spotted along the **Ghaghra river** at **Dudhwa Tiger Reserve**.

ABOUT INDIAN SKIMMER

- ❖ Indian Skimmer is an **unusual looking bird** with a **striking red, orange beak** where the **lower bill is longer than the upper bill**.
- ❖ Also known as **Indian scissors bill**.
- ❖ **Characteristics**
 - ✓ It measures **40 to 43 cm in length** and has a **wingspan of 110 cm**.
 - ✓ It feeds by **opening its mouth and skimming the top of river water** with its **lower bill** for **fish, larvae and shrimps**.
 - ✓ They **breed between February to June** and raise **one to three chicks per clutch**.
- ❖ **Less than 6,500 Indian Skimmers** are left globally.
- ❖ **Global distribution-** **North Indian rivers, Pakistan, Nepal, Bangladesh, Myanmar, China, Cambodia, Laos and Vietnam**.
- ❖ About **20% of the total population** nests **along river Chambal**.
- ❖ IUCN red list status- **Endangered**.

GHAGRA- A SAFE HAVEN

- ❖ **Ghaghra**, a **sanctuary for numerous threatened species**, serves as **one of the last strongholds for the critically endangered gharial and Gangetic dolphin in UP**.
- ❖ Both **Gharial and Indian Skimmer** need **suitable sandbars** to nest.
- ❖ Ghaghra has **many sand islands** all along its length.
- ❖ Indian Skimmers are **highly threatened species** and are **extremely vulnerable to habitat loss**.

- ❖ **Threats-** Sand mining, agricultural activities, cattle movement and human disturbance are major threats to **sandbar habitats** of the bird, which are **seasonally formed during summers**.

8.28 ARTIFICIAL REEF

- ❖ To promote sustainable practices, Department of Fisheries has sanctioned **732 artificial reef units for 10 coastal states with a total investment of Rs 126 crore** as a sub-activity under “**Integrated Modern Coastal Fishing Villages**” of the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**.
- ❖ The projects are being implemented with the **technical support** of **Fishery Survey of India (FSI)** and **ICAR-Central Marine Fisheries Research Institute (CMFRI)**.
- ❖ Thus all projects are **expected to be completed by January 2024**.

ABOUT ARTIFICIAL REEFS

- ❖ Artificial reefs are **engineering technology interventions** used to **rehabilitate and/or improve natural habitats, increase productivity and manage aquatic resources including habitat enhancement**.
- ❖ They are made from a **variety of natural or synthetic materials**, and **come in an infinite number of shapes and styles**.
- ❖ **Advantages**
 - ✓ ARs used for **aggregating fish and provide a home for fish to live and grow, reduce wave damage on coasts, helps regeneration of marine ecosystem and act as a carbon sink**.
 - ✓ **Two to three-fold increase in catch rates and efficiency thus saving fuel and energy costs** leading to increased income.
 - ✓ Provide a **firm substrate for marine life such as corals, algae and plankton** to attach to and grow
 - ✓ provide **favorable conditions for sea ranching and serve as spawning and nursery grounds for fish**.
 - ✓ Enhance **recreational fisheries, snorkeling, eco-tourism, creating suitable areas for diving and reducing conflicts**.

ABOUT PRADHAN MANTRI MATSYA SAMPADA YOJANA (PMMSY)

- ❖ PMMSY was **launched in May 2020** with the **highest ever investment of Rs. 20,050 crore** to bring about **Blue Revolution** through **sustainable and responsible development of the fisheries sector**.
- ❖ Implemented in **all States and UTs for a period of 5 years from FY 2020-21 to FY 2024-25**.
- ❖ Umbrella scheme with **Central Sector Scheme** and **Centrally Sponsored Scheme components**—meaning that the Central government bears project cost and States/UTs share the cost of sub-components/activities.
- ❖ **Motto- “Reform, Perform and Transform”** in fisheries sector.

8.29 PTERYGOTRIGLA INTERMEDICA

- ❖ The **scientists of the Zoological Survey of India (ZSI)** have discovered a **new species of a vibrant orange coloured deep water marine fish** from **Digha Mohana in West Bengal**.
- ❖ The **new species, commonly known as gurnards or sea-robins**, belongs to the family **Triglidae**.
- ❖ Named **Pterygotrigla intermedica**, it has **characters quite similar to species like Pterygotrigla hemisticta**.
- ❖ It is the **fourth species of Pterygotrigla genus reported in India so far**.
 - ✓ There are a **total 178 species of the Triglidae family worldwide**.
- ❖ **Distinct** from other gurnard fish in features like **snout length, shape of the internuchal space and size of the cleithral spine**.
- ❖ The scientists found a **distinct pectoral-fin with black membranes on the inner surface, white posterior margin and three small white spots basally in fin**.
- ❖ It had a combination of **characters like a long opercular spine and a very short cleithral spine**.

8.30 VEERANGANA DURGAVATI TIGER RESERVE

- ❖ **Madhya Pradesh, which is home to the most number of tigers in the country, has got a new protected area for the big cats named 'Veerangana Durgavati Tiger Reserve'.**
- ❖ **It is the seventh tiger reserve in the state and 54th in the country.**
 - ✓ **Other six tiger reserves in MP are– Kanha, Bandhavgarh, Satpura, Pench, Panna and Sanjay-Dubri.**
- ❖ **In compliance with the condition imposed by the Centre while giving approval to the Ken-Betwa River Link Project, the new tiger reserve, spread across Sagar, Damoh and Narsinghpur districts, has been notified.**
- ❖ **About 1,414 square kilometres in the tiger reserve has been included in the core area and 925.12 square kilometres in the buffer zone.**
- ❖ **The previously notified eco-sensitive zone of Nauradehi and Veerangana Durgavati sanctuaries and the surrounding forest areas have been included in the notified buffer area.**
- ❖ **Since no new revenue area has been included under this tiger reserve, no additional restrictions will be imposed on the local people living around it.**

OTHER FACTS

- ❖ **As per the report 'Status of Tigers: Co-predators & Prey in India-2022', released by the National Tiger Conservation Authority and Wildlife Institute of India, MP (785) has the highest number of tigers in the country, followed by Karnataka (563) and Uttarakhand (560).**
- ❖ **M.P. retained the "tiger state" status in the 2022 census with the number of big cats in the state rising to 785 from 526 in 2018.**

8.31 NILGIRI TAHR

- ❖ **Tamil Nadu will collaborate with Kerala to jointly count the population of Nilgiri Tahr.**
- ❖ **Tamil Nadu had launched Project Nilgiri Tahr last year for the conservation of the State animal.**

ABOUT NILGIRI TAHR

- ❖ **It is southern India's only mountain ungulate.**
- ❖ **The animal is only found in select habitats in the two states of Kerala and Tamil Nadu.**
- ❖ **It prefers montane grasslands, with steep and rocky terrains at an altitude between 300 and 2,600 metres above sea level.**
- ❖ **There are believed to be a little over 3,100 of the animals living in highly fragmented habitats in the Western Ghats in Tamil Nadu and Kerala, ranging between the Nilgiris in the north and the Kanniyakumari hills in the south.**
- ❖ **Eravikulam National Park in Kerala is the biggest habitat of the animal followed by Anamalai Tiger Reserve.**
- ❖ **Threats – habitat threats in the form of the spread of invasive plants such as wattles, pines, and eucalyptus; Hunting; lumpy skin disease has also been observed in the animal etc.**
- ❖ **Protection status**
 - ✓ **IUCN red list status- Endangered**
 - ✓ **WPA 1972- Schedule 1**

8.32 BALSAMS BLOOM IN MUNNAR

- ❖ **Presenting a visual feast to tourists, balsams (genus Impatiens) are in full bloom in Munnar.**

ABOUT BALSAMS

- ❖ **Called Kasithumba and Onappovu locally, its small, pink flowers are a major attraction.**
- ❖ **Balsams are also known as 'touch-me-not' because of the bursting of mature seeds and seed distribution.**
- ❖ **Of the 220 balsam species in India, 135 are found in the southern Western Ghats.**
- ❖ **Anamudi, the highest mountain in the Western Ghats, and the surrounding high ranges are known for the of diversity of wild balsams.**
- ❖ **46 species of balsams have been discovered in the altitude of Munnar.**
 - ✓ **No other place in the world has such diversity.**
- ❖ **The normal lifecycle of balsams is from June to December.**
- ❖ **The plant mainly grows inside pockets of forest areas.**
- ❖ **With the loss of specific habitats, many species have become rare, threatened, or even extinct.**

- ❖ This **fleshy orophytic herb** usually prefers **humid habitats** and **completes the lifecycle** in the rainy season.
- ❖ Balsams are a **major indicator species** of climate change.

8.33 CHINCHOLI WILDLIFE SANCTUARY

- ❖ **Kalyana Karnataka**, a vast arid region comprising seven north-eastern districts of the State, Bidar, Kalaburagi, Yadgir, Raichur, Koppal, Ballari and Vijayanagara, has some pockets that give one a feeling of being in the middle of the dense Western Ghats.
- ❖ One such place is **Chincholi Wildlife Sanctuary**, located around the **Chandrampalli Dam** in Chincholi taluk of Kalaburagi district of Karnataka.
- ❖ **Chincholi Wildlife Sanctuary**, declared as such in **2011**, is a vast jungle of **134.88 square kilometres** spread over five blocks, Chincholi, Sangapura, Bhonsapur, Magdumpur and Shadipur.
- ❖ The sanctuary has **four dams**, of which **Chandrampalli** is the major one.
- ❖ It is the **first dry-land wildlife sanctuary** in South India and the **only one** in the region with rich biodiversity.
- ❖ **Flora**- The sanctuary hosts **several medicinal herbs** and **rare trees** such as **red sanders** and **sandalwood**.
 - ✓ It has **good dry deciduous** and **moist deciduous forest** in the core with **acacia** and **teak plantations** on the fringes.
- ❖ **Fauna** includes **blackbuck**, **common fox**, **four-horned antelope**, **fruit bat**, **hyena** and **Indian wolf**.
 - ✓ Over **35 species** of birds, including **black drongo**, **black-winged kite**, **blossom-headed parakeet**, **blue pigeon**, **black-headed oriole** and **grey partridge**.

8.34 CONOCARPUS TREES

- ❖ **Gujarat** has **banned the invasive tree species**- '**Conocarpus**' plantation in forest or non-forest area, underlining its "**adverse impacts on environment and human health**".
- ❖ Earlier, **Telangana** had also **banned the plant species**, which is **widely used** in public spaces for its **ornamental looks** but is known to have **adverse effects on the local biodiversity**.

ABOUT CONOCARPUS

- ❖ **Conocarpus** is an **evergreen species** with **dark-green shiny leaves**.
- ❖ It is an **exotic mangrove species** native to **parts of North and South America** as well as **parts of Africa**.
- ❖ It is a **fast-growing species** which is reported to be **not palatable** to **wild herbivores** or **domesticated animals**.
- ❖ Trees of this species **flower in winter** and **spread pollen** in nearby areas. It is learnt that this is **causing diseases** like **cold, cough, asthma, allergy** etc.
- ❖ **Roots** of this species go deep inside soil and **develop extensively**, damaging **telecommunication lines, drainage lines** and **freshwater systems**.

8.35 MANIS MYSTERIA

- ❖ Scientists have **discovered a ninth variety** of the endangered mammal, pangolin.
- ❖ Previously, the **scientific community** acknowledged **four species** each in **Asia and Africa**.
 - ✓ Four species live in Africa: **Black-bellied pangolin**, **White-bellied pangolin**, **Giant Ground pangolin** and **Temminck's Ground pangolin**.
 - ✓ Four species found in Asia: **Indian pangolin**, **Philippine pangolin**, **Sunda pangolin**, and the **Chinese pangolin**.
- ❖ This **new species**, tentatively named "**Manis mysteria**", is believed to have **diverged** from its **Philippine and Malayan relatives** **approximately five million years ago**.
- ❖ The newly identified pangolin species **emerged** from a detailed study of scales seized in **China's Yunnan province** in **2015 and 2019**.
- ❖ Despite the exciting discovery, the **exact habitat** of **Manis mysteria** remains a **mystery**.

ABOUT PANGOLINS

- ❖ Only mammals **wholly covered** in **scales** made of **keratin**.

- ❖ They are often referred to as "scaly anteaters" due to their characteristic scales and their diet, which primarily consists of ants and termites.
- ❖ When threatened, pangolins can curl into a tight ball, with their scales forming a protective barrier.
- ❖ Pangolins have **no teeth**.
- ❖ They are **most active at night and are solitary creatures**.
- ❖ Pangolin species found in India
 - ✓ **Indian Pangolin**-IUCN Red List status – **Endangered**, WPA 1972-Schedule 1
 - ✓ **Chinese Pangolin**-IUCN Red List status – **Critically Endangered**, WPA 1972-Schedule 1
- ❖ **Threats**
 - ✓ Pangolins have been **under threat due to their scales**, used in traditional medicine, and their meat, considered a delicacy in some regions.
 - ✓ From 2004 to 2014, it is **estimated that over a million pangolins were poached**, leading to an **international trade ban on this species in 2016**.
 - ✓ They are the **most trafficked mammals in the world**.
 - ✓ **All pangolin species** are listed in **Convention on International Trade in Endangered Species (CITES) Appendix I**.

8.36 KAMLANG TIGER RESERVE

- ❖ **Kamlang Tiger Reserve** conducted a **butterfly walk and nature trail event for the first time ever in association with Wiki Loves Butterflies and Amyaa (NGOs)**.
- ❖ The **main goals** of the event were **to uncover the diversity of undiscovered butterflies and to expose all participants to a wide audience**.

ABOUT KAMLANG TIGER RESERVE

- ❖ It is **located in the Lohit district of Arunachal Pradesh** and is named after the Kamlang river which flows through it.
- ❖ The Kamlang Wildlife Sanctuary is the **50th tiger reserve in India**.
- ❖ The **Kamlang Tiger Reserve** is home to **over 60 mammals, 105 bird species, and 20 reptiles**. For e.g. **Snow Leopard, Clouded Leopard, Tiger, Himalayan Palm Civets, Hornbill, etc.**
- ❖ **Vegetation-** The **upper reaches of the reserve have Alpine vegetation**, while the **lower reaches have tropical and evergreen forests**. Trees like **Canarium resiniferum, Amoora wallichii, Gmelina arborea, and Terminalia chebula** are found.
- ❖ The park has a **number of elevated water bodies**, including **Glow Lake**.

CivilsTap Hlmachal

9. POLICY AND PROGRAMME

9.1 GRAMODYOG VIKAS YOJANA

- ❖ **Khadi and Village Industries Commission (KVIC)**, under **Ministry of Micro, Small and Medium Enterprises**, recently distributed **tool-kits and machineries to artisans** in a **distribution ceremony** in **Bhubaneshwar (Odisha)** under **Gramodyog Vikas Yojana**.

ABOUT GRAMODYOG VIKAS YOJANA

- ❖ **Launched in March 2020**, it is **one of the two components of the Khadi Gramodyog Vikas Yojana** which is a **Central Sector Scheme (CSS)**.
 - ✓ The other component being **Khadi Vikas Yojana (KVY)**.
- ❖ It **aims to promote and develop the village industries** through **common facilities, technological modernization, training** etc.
- ❖ The scheme is **implemented by the Khadi and Village Industries Commission (KVIC)**.
- ❖ Components include- **R &D and Product Innovation, Capacity Building and Marketing & Publicity**
- ❖ **Activities**
 - ✓ **Agro-Based & Food Processing Industry (ABFPI)**
 - ✓ **Mineral-Based Industry (MBI)**
 - ✓ **Wellness & Cosmetics Industry (WCI)**
 - ✓ **Handmade Paper, Leather & Plastic Industry (HPLPI)**
 - ✓ **Rural Engineering & New Technology Industry (RENTI)**
 - ✓ **Service Industry**

9.2 PM-DAKSH YOJANA

- ❖ Under the **PM-Daksh Scheme**, **target to train during next three years will be 1,69,300 candidates from 2023-24 to 2025-26** with a **budgetary outlay of Rs.286.42 crore**.

ABOUT PM-DAKSH SCHEME

- ❖ The **Pradhan Mantri Dakshata Aur Kushalata Sampanna Hitgrahi (PM-DAKSH) Yojana**, a **Central Sector Scheme**, was **launched during 2020-21**.
- ❖ The **main objective** of the Scheme is **to enhance competency level of the target groups to make them employable both in self-employment and wage-employment for their socio-economic development**.
- ❖ **Nodal Ministry - Ministry of Social Justice & Empowerment**.
- ❖ **Target group- SCs, OBCs, EBCs, DNTs Safai Karamcharis including waste pickers** etc.
 - ✓ The **age criterion** of scheme **between 18-45 years** and
 - ✓ **Income criteria** is **no income limit for SCs, SafaiKaramcharis Including wastepicker and DNT**.
 - ✓ The **annual family income** should be **below Rs.3 lakh for OBCs and the EBCs (Economically Backward Classes) annual family income below Rs.1 lakh**.
- ❖ **Types of Trainings, duration and average cost per candidate-**
 - ✓ **Up-skilling/Reskilling** (35 to 60 hours/ 5 days to 35 days):-Rs.3000/- to Rs.8000/-
 - ✓ **Short Term Training** (300 hours/3 months) :-Rs.22,000/-
 - ✓ **Entrepreneurship Development Programme** (90 hours/15 days):Rs.7000/-
 - ✓ **Long Term Training** (650 hours/7 months) :- Rs.45,000/-
- ❖ **Stipend: Rs.1,000/- to Rs.1,500/- per month per trainee for trainees having 80% and above attendance in short term and long term training.**

9.3 ADOPT A HERITAGE 2.0 SCHEME

- ❖ The **Archaeological Survey of India (ASI)** recently launched a **revamped version of the 'Adopt a Heritage' programme** apart from an **Indian Heritage app and an e-permission portal**.
- ❖ **'Adopt a Heritage 2.0'**, is the **upgraded version of 'Adopt a Heritage' programme**.

- ✓ Initially launched in 2017 under the Ministry of Tourism, in collaboration with the ASI it invited corporate stakeholders to adopt from over 3,000 protected monuments spread across the country.
- ❖ The programme encourages corporate stakeholders to utilise their Corporate Social Responsibility (CSR) funds to enhance facilities at historically-important monuments.
- ❖ The Adopt a Heritage 2.0 has incorporated a host of changes to the programme after a leaner management and supervision structure for the partner agencies, clear guidelines for semi-commercial activities and detailed scope of work and amenities required for monuments was proposed in the earlier version. 1,000 additional monuments have also been added to the list for adoption.
- ❖ In the updated programme, more freedom has been given to companies such as the option to either adopt a monument in whole and develop its tourism infrastructure, or provide a particular amenity such as drinking water facility or cleaning services for one or several sites.

ABOUT THE APP AND PORTAL

- ❖ The app, on the other hand, provides a comprehensive guide to monuments under ASI's ambit.
- ❖ It lists historical structures along with pictures, public facilities available on site and geo-tagged locations.
- ❖ The e-permission portal has been designed to simplify and speed up the process for acquiring approvals for photography, filming, and developmental initiatives concerning heritage monuments, with the goal of expediting the permission-granting process.

9.4 JAL JEEVAN MISSION

- ❖ The Jal Jeevan Mission (JJM) has achieved a remarkable milestone by providing tap water connections to 13 crore rural households.
- ❖ As of the latest data, several states and union territories, including Goa, Telangana, Haryana, Gujarat, Punjab, Himachal Pradesh, Puducherry, Daman & Diu, Dadra & Nagar Haveli, and the Andaman & Nicobar Islands, have achieved 100% coverage.

ABOUT JAL JEEVAN MISSION

- ❖ It was launched on India's 73rd Independence Day, August 15, 2019.
- ❖ The mission is driven by the principles of speed and scale.
- ❖ It is a Centrally Sponsored Scheme by the Ministry of Jal Shakti.
- ❖ The ratio of funds shared between the Center and the State-
 - ✓ for Himalayan (Uttarakhand, Himachal Pradesh) and the North-Eastern States is 90:10;
 - ✓ for UTs- it is 100:0; and
 - ✓ for the rest of the states, it is 50:50.
- ❖ It aims to provide 55 liters of water per person per day through a functional Household Tap Connection (FHTC) to every rural household i.e., Har Ghar Nal Se Jal (HGNSJ) by 2024.
- ❖ The Jal Jeevan Mission operates in collaboration with states and union territories, leveraging the combined efforts of various stakeholders, including development partners.
- ❖ The Paani Samitis plan, implement, manage, operate and maintain village water supply systems.
 - ✓ These samitis consist of 10-15 members, with at least 50% women members and other members from Self-Help Groups, Accredited Social and Health Workers, Anganwadi teachers, etc.

9.5 BATTERY ENERGY STORAGE SYSTEMS

- ❖ The Union Cabinet has approved the Scheme for Viability Gap Funding (VGF) for development of Battery Energy Storage Systems (BESS).
- ❖ The approved scheme envisages development of 4,000 MWh of BESS projects by 2030-31, with a financial support of up to 40% of the capital cost as budgetary support in the form of Viability Gap Funding (VGF).
- ❖ The move is expected to bring down the cost of battery storage systems increasing their viability.
- ❖ Designed to harness the potential of renewable energy sources such as solar and wind power, the scheme aims to provide clean, reliable, and affordable electricity to the citizens.
- ❖ The VGF for development of BESS Scheme, with an initial outlay of Rs.9,400 crore, including a budgetary support of Rs.3,760 crore, signifies the government's commitment to sustainable energy solutions.

- ❖ By offering VGF support, the scheme targets achieving a Levelized Cost of Storage (LCoS) ranging from Rs. 5.50-6.60 per kilowatt-hour (kWh), making stored renewable energy a viable option for managing peak power demand across the country.
- ❖ The VGF shall be disbursed in five tranches linked with the various stages of implementation of BESS projects.
- ❖ A minimum of 85% of the BESS project capacity will be made available to Distribution Companies (Discoms).
- ❖ The selection of BESS developers for VGF grants will be carried out through a transparent competitive bidding process.

9.6 SWACHH VAYU SARVEKSHAN 2023 RANKINGS

- ❖ The Swachh Vayu Sarvekshan 2023 (Clean Air Survey) report was released in Bhopal, Madhya Pradesh.
- ❖ The survey was conducted by the Central Pollution Control Board.
- ❖ This year, the 4th International Day of Clean Air for Blue Skies (Swachh Vayu Diwas 2023) is to create stronger partnerships, increase investment, and share responsibility to overcome air pollution, with the global theme "Together for Clean Air."
- ❖ Swachh Vayu Sarvekshan is an initiative by the ministry of environment, forests and climate change (MoEF&CC) to rank cities on the basis of implementation of activities approved under city action plan and air quality in 131 non-attainment cities under National Clean Air Programme (NCAP).
 - ✓ The union government had launched NCAP in 2019 with a target of reducing particulate pollution by up to 30% by 2024, with the reference base year of 2017.
- ❖ 131 cities are categorized into three groups based on population.
 - ✓ more than 10 lakh.
 - ✓ between 3 to 10 lakh.
 - ✓ less than 3 lakh.
- ❖ It is based on the actions taken by the cities to improve the air quality in different domains and not on the measurement of the air quality parameters.

MAJOR FINDINGS

- ❖ In cities with over one million population, Indore secured the first rank followed by Agra and Thane. Madurai, Howah and Jamshedpur ranked 46, 45 and 44, respectively.
- ❖ In the second category, with a population between 300,000 to one million, Amravati secured the first rank followed by Moradabad and Guntur. Jammu, Guwahati and Jalandhar ranked 38, 37 and 36, respectively.
- ❖ Similarly, for the third category, with a population of less than 300,000, Parwanoo in Himachal Pradesh secured the first rank followed by Kala Amb and Angul, while Kohima was ranked last – 39.

9.7 NAIROBI DECLARATION

- ❖ The first ever Africa Climate Summit ended with a call for world leaders to back global taxes to fund climate action.
- ❖ The "Nairobi declaration" also calls for financial reforms to help African countries.
- ❖ The declaration calls on the world's biggest emitters of greenhouse gases and its richest countries to keep their promises — noting in particular an unfilled pledge of \$100 billion in annual climate finance to developing nations, made 14 years ago — and for today's world leaders to rally behind a global carbon tax on fossil fuels, aviation and maritime transport.

9.8 PM'S VISHWAKARMA SCHEME

- ❖ Prime Minister Narendra Modi will be launching the 'PM Vishwakarma Scheme' virtually on September 17 from Delhi on 'Vishwakarma Day' that will be attended by 70 ministers from 70 different locations across the country.

ABOUT PM VISHWAKARMA YOJANA:

- ❖ **PM Vishwakarma Yojana** was announced by Finance Minister **Smt. Nirmala Sitharaman** during her **2023-2024** budget speech.
- ❖ The full name of PM Vishwakarma Yojana is **PM Vishwakarma Kaushal Samman Yojana**.
- ❖ It is also known by other name i.e. "**PM VIKAS Yojana**" or "**PM Vishwakarma Scheme**".
- ❖ On 16th of August 2023, Union Cabinet gave its nod to implement **PM Vishwakarma Yojana** in whole of India.
- ❖ Date fixed by Union Cabinet to launch it is on 17th of September 2023.
- ❖ **PM Vishwakarma Yojana** is going to launch on the occasion of Vishwakarma Jayanti on 17-08-2023.
- ❖ The main objective behind launching **PM Vishwakarma Kaushal Samman Yojana** is to support artist, craftsman and small business owner financially and help them to grow their business by providing them capital support.
- ❖ Government of India reserves the budget of **Rs. 13,000/- Crore** for the smooth implementation of PM Vishwakarma Yojana.
- ❖ **Ministry of Micro, Small & Medium Enterprise** is the nodal ministry of PM Vishwakarma Yojana.
- ❖ **Loan up to Rs. 1,00,000/- on a Interest of only 5%** will be provided to all eligible Artists and Craftsmen for their business.
- ❖ And if they successfully pay back the loan amount then they again take a loan up to **Rs. 2,00,000/- on a Interest Rate of 5%**.
- ❖ Apart from **Capital Loan, Skill Training** will also provided to **Artists and Craftsmen** under PM Vishwakarma Yojana.
- ❖ **Stipend of Rs. 500/- per Day** will be provided to trainee selected for training under Pradhan mantri Vishwakarma Kaushal Samman Yojana.
- ❖ **A Financial Assistance of Rs. 15,000/-** will also provided to all Craftspeople and Artisan to purchase advance tools for their business.
- ❖ Government of India will also provide PM Vishwakarma Certificate and Identity Card to beneficiaries for their easy identification.
- ❖ **18 Traditional Trades** is included by Government of India under PM Vishwakarma Yojana.
- ❖ **30 Lac Families** belonging to more than **164 Backward Classes** is expected to be covered and is going to take benefits of PM Vishwakarma Yojana.
- ❖ Eligible Artisans and Craftsman will have to wait little more in order to avail the benefit of PM Vishwakarma Kaushal Samman Yojana.

9.9

VIDYA SAMIKSHA KENDRAS

- ❖ Under the National Digital Education Architecture (NDEAR), the Ministry of Education is pushing States to open Vidya Samiksha Kendras (VSKs).

ABOUT THE INITIATIVE:

- ❖ **Vidya Samiksha Kendras (VSKs)** are an open-source platform run on **C-Qube software** to collect data from all schemes run by the Ministry of Education (MoE).
- ❖ VSK control rooms will collect data to track key performance indicators as well as analyse data collated from govt schemes '**using AI & machine-learning**'.
- ❖ The operations of **VSK centres** are managed by an open-source platform run on C-Qube software.
- ❖ **Advisory role** – '**EkStep Foundation**', a non-profit organisation is on board in an advisory role for implementing the VSK project.
- ❖ The Centre has allocated funds ranging from **Rs.2 to Rs.5 crore** to each State for adopting and establishing VSK.
- ❖ The repository will include regularly updated data from
 - ✓ **PM-POSHAN mid-day meal programmes;**

- ✓ Teacher training data from National Initiative for School Heads' and Teachers' Holistic Advancement portal;
 - ✓ Textbook content from Digital Infrastructure for Knowledge Sharing (DIKSHA);
 - ✓ School dropout and attendance-related data on Unified District Information System for Education (UDISE+);
 - ✓ Students' learning outcomes from National Achievement Survey;
 - ✓ Performance Grading Index which evaluates school education system at the State/U.T. level.
- ❖ **Function-** Multiple platforms at Centre, State and district levels can communicate with each other using requests and responses to seamlessly integrate data at all levels on the platforms.
 - ❖ This is in line with the **National Education Policy, 2020** talking about developing operational standards for making data open source.

NATIONAL DIGITAL EDUCATION ARCHITECTURE (NDEAR):

- ❖ **NDEAR** is an **architectural blueprint** for the educational ecosystem in the country that defines a set of principles, standards and specifications, guidelines and policies to strengthen the digital infrastructure for education.
- ❖ It is under the **Ministry of Education in collaboration with the Ministry of Electronics and Information Technology**.
- ❖ Under this, the government will not be building technology solutions for the education sector but will act as an enabler, offering a framework wherein technology can be developed and built by anyone.
- ❖ It promotes a '**digital first**' approach, supporting teaching and learning activities, and facilitating educational planning as well as governance and administrative activities.

9.10 AYUSHMAN BHAV CAMPAIGN

- ❖ **President Droupadi Murmu** virtually launched the '**Ayushman Bhav**' campaign as well as the Ayushman Bhava Portal from Raj Bhawan **Gandhinagar, Gujarat**.

ABOUT 'AYUSHMAN BHAV' CAMPAIGN

- ❖ It is a comprehensive nationwide healthcare initiative that aims to provide saturation coverage of healthcare services, reaching every village and town in the country.
- ❖ It is initiated by the **Ministry of Health and Family Welfare**, Government of India.
- ❖ The campaign, which will be implemented during the '**Seva Pakhwada**' from September 17th to October 2nd, 2023, embodies a whole-of-nation and whole-of-society approach. It unites government sectors, civil society organizations and communities under a common mission to ensure that every individual receives essential health services without any disparity or exclusion.

COMPONENTS OF 'AYUSHMAN BHAVA' CAMPAIGN:

Ayushman Bhava is an umbrella campaign comprising three key components:

- ❖ **Ayushman Apke Dwar 3.0:** This initiative aims to provide Ayushman cards to remaining eligible beneficiaries enrolled under the PM-JAY scheme, ensuring that more individuals have access to essential health services.
- ❖ **Ayushman Melas:** These Melas at Ayushman Bharat- HWCs and CHCs will facilitate the creation of ABHA IDs (Health IDs) and issuance of Ayushman Bharat Cards. They will also offer early diagnosis, comprehensive primary health care services, teleconsultation with specialists, and appropriate referrals.
- ❖ **Ayushman Sabhas:** These gatherings in every village and Panchayat will play a pivotal role in distributing Ayushman cards, generating ABHA IDs, and raising awareness about vital health schemes and disease conditions, such as non-communicable diseases, tuberculosis (Nikshay Mitra), sickle cell disease, as well as blood donation and organ donation drives.

9.11 iGOT KARMAYOGI PLATFORM

- ❖ The Aspirational Blocks Programme Module is live on the iGOT Karmayogi Platform.

ABOUT KARMAYOGI:

- ❖ **iGOT Karmayogi Bharat** has launched a new curated collection dedicated to the **Aspirational Blocks Programme (ABP)**.
- ❖ **iGOT Karmayogi** is the capacity development ecosystem for government officials, managed by **Karmayogi Bharat SPV**, in partnership with **NITI Aayog**.
- ❖ The new module seeks to build functional, domain and behavioural competencies of **5000 Block-level officials across 500 identified Blocks** by acquainting learners with subjects crucial for performing their duties and responsibilities effectively.
- ❖ Ten new courses included are on topics such as time management, communication for citizen centricity, leadership, operation module on **Mission LiFE, SDGs, problem-solving and decision making, etc.**
- ❖ **iGOT Karmayogi** is a comprehensive online portal to guide government officials in their capacity-building journey.

MISSION KARMAYOGI

- ❖ **Mission Karmayogi** is the National Programme for Civil Services Capacity Building (NPCSCB). It is a reform in Indian Bureaucracy. Union Cabinet launched it on 2nd September 2020. The mission intends to lay down the foundations for the Indian civil servants' capacity building and aims to enhance governance.

SIX PILLAR OF MISSION KARMAYOGI

Mission Karmayogi has the following six pillars:

- ❖ Policy Framework
- ❖ Institutional Framework
- ❖ Competency Framework
- ❖ Digital Learning Framework
- ❖ Electronic Human Resource Management System (e-HRMS)
- ❖ Monitoring and Evaluation Framework

ASPIRATIONAL BLOCKS PROGRAMME

- ❖ **NITI Aayog** has launched the **Aspirational Blocks Programme**, building on the success of the Aspirational Districts Programme. The Programme is aimed at improving the performance of areas that are lagging on various development parameters. It was announced in the **Union Budget 2022-23**.

9.12 PM UJJWALA YOJANA

- ❖ The Union Cabinet has decided to extend the **Pradhan Mantri Ujjwala Yojana (PMUY) to 75 lakhs** more consumers by providing them LPG connections over three years from **2023-24 to 2025-26**.
- ❖ Costing **Rs 1,650 crore**, this expansion will elevate the total number of PMUY beneficiaries to **103.5 million**.
- ❖ The government announced this extension after reducing the price of cooking gas by **Rs 200** across all markets last month.

ABOUT UJJWALA YOJANA

- ❖ It is a scheme of the **Ministry of Petroleum & Natural Gas** for providing LPG connections to women from Below Poverty Line (BPL) households.
- ❖ The scheme was originally launched on **May 1, 2016, in Ballia, Uttar Pradesh** by the Prime Minister of India with a target of releasing **8 crore** connections by **March 2020**.
- ❖ **During Ujjwala 1.0**, a target was set to provide LPG connections to **5 crore** women members of BPL households.
- ❖ Subsequently, the scheme was expanded in **April 2018** to include women beneficiaries from seven more categories (**SC/ST, PMAY, AAY, Most backward classes, tea garden, forest dwellers, Islands**).
- ❖ The **PMUY 2.0** was launched in the financial year **2021-22** making a provision for the release of additional one crore connections.

9.13 PRADHAN MANTRI MATSYA SAMPADA YOJANA

- ❖ **Pradhan Mantri Matsya Sampada Yojana (PMMSY)** has completed **three** successful years of implementation.
- ❖ The government has recently announced investment of **Rs. 6,000 Crore** as a sub scheme under the **PMMSY**, taking total investment into fisheries to more than **Rs.38,500 crore** over the last nine years.

ABOUT PMMSY

- ❖ The central government launched the **Pradhan Mantri Matsya Sampada Yojana (PMMSY) in 2020** to bring about the **Blue Revolution** through sustainable and responsible development of the fisheries sector in India.
- ❖ It is implemented by the **Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying**.

OBJECTIVES

- ❖ It is a flagship scheme for integrated, sustainable, inclusive development of marine and inland fisheries sector in the country with an estimated investment of **Rs. 20,000 crores** for its implementation during a period of **5 years from FY 2020-21 to FY 2024-25** in all States/Union Territories.
- ❖ It aims at enhancing fish production by an additional **70 lakh tonne by 2024-25**, increasing fisheries export earnings to **Rs.1,00,000 crore by 2024-25**, doubling of incomes of fishers and fish farmers, reducing post-harvest losses from **20-25% to about 10%**.
- ❖ It is designed to address critical gaps in fish production and productivity, quality, technology, post-harvest infrastructure and management, modernization and strengthening of value chain, traceability and establishing a robust fisheries management framework and fishers' welfare.
- ❖ It primarily focuses on adopting '**Cluster or Area based approaches**' and creation of Fisheries clusters through backward and forward linkages.
- ❖ The scheme also aims at generating additional **55 lakhs** direct and indirect gainful employment opportunities in the fisheries sector and allied activities.

9.14 KALAINGAR MAGALIR URIMAI THITTAM SCHEME

- ❖ Tamil Nadu CM Stalin launched **Kalaignar Magalir Urimai Thittam** in Kancheepuram.
- ❖ Under the scheme, **₹1,000 will be given as a rights grant every month, to 1.06 crore women heads of families in Tamil Nadu**.
- ❖ The Tamil Nadu government will incur an expenditure of **₹12,000 crore annually, to implement this scheme**.

9.15 MUKHYAMANTRI SAMPOORNA PUSHTI YOJANA

- ❖ **Odisha** CM Naveen Patnaik launched the '**Mukhyamantri Sampoorna Pushti Yojana**' in the state for fulfilling the nutritional needs among the mothers, adolescent girls and children.
- ❖ Under the scheme **provisions** have been made to provide **nutritional supplements to all adolescent girls between the ages of 15 to 19 years** and **additional dry food to pregnant women and expecting mothers**, in addition with, the provision has been made to provide **complete food to severely malnourished children, vitamin-enriched Chhatua** (roasted gram flour) and **eggs for moderately malnourished children and severely underweight children**.
- ❖ The CM also launched the '**Pada Pushti Yojana**'.
 - ✓ Under the '**Pada Pushti Yojana**' children in **remote and tribal areas** will be provided with **high-quality-cooked food in their enclaves and villages**.

9.16 SHREYAS SCHEME

- ❖ Over **2300 crore rupees** have been allocated for education of **SC and OBC students since 2014**.

ABOUT SHREYAS SCHEME

- ❖ Nodal ministry- **Ministry of Social Justice and Empowerment**
- ❖ The **umbrella scheme of "SHREYAS"** comprises **4 central sector sub-schemes** namely-
 - ✓ **"Top Class Education for SCs"**,
 - aims at **recognizing and promoting quality education amongst students belonging to SCs, by providing full financial support**.

- The Scheme will cover SC students for pursuing studies beyond 12th class.
- ✓ "Free Coaching Scheme for SCs and OBCs",
 - Objective of the Scheme is to provide coaching of good quality for economically disadvantaged Scheduled Castes (SCs) and Other Backward Classes (OBCs) candidates to enable them appear in competitive and entrance examinations.
 - The ceiling of the total family income under the scheme is 8 lakhs per annum.
 - 3500 slots are allotted per annum. The ratio of SC: OBC students is 70:30 and 30% slots are reserved for females in each category.
- ✓ "National Overseas Scheme for SCs"
 - financial assistance is provided to the selected students from SCs; De-notified, Nomadic and Semi-Nomadic Tribes; landless agricultural labourers and traditional artisan categories, for pursuing masters and Ph.D. level courses abroad.
 - Presently, 125 slots are allotted under the scheme.
- ✓ "National Fellowship for SCs"
 - fellowship is provided to Scheduled Castes students for pursuing higher education leading to M.Phil/ Ph.D degrees in Sciences, Humanities and Social Sciences in Indian Universities/Institutions/ Colleges recognized by University Grants Commission (UGC).

9.17 AI CHATBOT FOR PM-KISAN SCHEME

- ❖ The Ministry of Agriculture and Farmers' Welfare launched an AI chatbot — the first of its kind to be integrated with a major flagship scheme of the central government — for the PM-KISAN scheme.
- ❖ It has been developed and improved with the support of EkStep foundation and Bhashini.
- ❖ The introduction of the AI Chatbot in the PM-KISAN grievance management system is aimed at empowering farmers with a user-friendly and accessible platform.
- ❖ The chatbot is currently available in English, Hindi, Bengali, Odia and Tamil, and will soon be available in all 22 official languages of the country.

ABOUT PRADHAN MANTRI KISAN SAMMAN NIDHI (PM-KISAN) SCHEME

- ❖ PM-KISAN is a central sector scheme launched in February 2019 to support the financial needs of land-holding farmers in India.
- ❖ The scheme offers an annual financial benefit of Rs 6,000/- in three equal instalments to eligible farmers' families through Direct Benefit Transfer (DBT) mode.
- ❖ Since its inception, over Rs. 2.61 Lakhs Crores disbursed to more than 11 Crore farmers so far, it stands as one of the largest DBT schemes globally.
- ❖ The scheme has played a vital role in providing income support to landholder farmer families across the country with cultivable land.

9.18 GENERAL CROP ESTIMATION SURVEY APP LAUNCHED

- ❖ The Mobile Application and the Web Portal for General Crop Estimation Survey (GCES) was launched recently.
- ❖ It is developed by the Department of Agriculture and Farmers' Welfare, Ministry of Agriculture and Farmers Welfare.
- ❖ Portal and the app provide a comprehensive repository of yield estimation including village wise GCES plans.
- ❖ One of the key features of the mobile application is Geo referencing- it enables the primary worker to draw the boundary of the experimental plot and upload photos of the plot as well as of the crops through it.

9.19 ASOLA BHATTI WILDLIFE SANCTUARY

- ❖ The Wildlife Institute of India (WII), Dehradun, is likely to conduct a study on the biodiversity of the Asola Bhatti Wildlife Sanctuary in Delhi and prepare a management plan.

- ❖ One of the **objectives** of the study is to evaluate “**potential socio-economic changes**” on the life of nearby villages “**by maintaining the ecological integrity of the ecosystem to ensure the wise use of common ecological goods and services**”.
- ❖ It will also look at **delineation of the mined-out pits and their attributes**, including the **plant and animal components and habitats associated with them**, and promoting “**sustainable eco-tourism**”.

ABOUT THE SANCTUARY

- ❖ It covers an area of **32.71 sq km** and is part of the Ridge in South Delhi.
- ❖ It is the **only protected area representing the northeastern, rolling outliers as a landform of the country’s oldest hill ranges, the Aravallis**.
 - ✓ Thus it **geographically represents a landform not earlier represented in the national protected area network**.
- ❖ The **vegetation in the Wildlife Sanctuary is predominantly an open canopied thorny scrub**.
 - ✓ Flora- total **237 species of plants**, which includes **85 species of trees, 130 species of shrubs and herbs, 18 species of grasses and 4 species of sedges**.
 - ✓ **Dhau, Palash, Kanthari, Jharber** are some of the **native species of Aravalli range**.
- ❖ Fauna includes **Hog deer, Nilgai, Black Buck, Sambar, Spotted deer, Indian Boar, leopards, Striped hyenas, rhesus macaques etc.**
- ❖ The area was **earlier used for mining quartzite and sand**, leaving **deep mining pits behind**, one of which, the **Neeli Jheel**, has now become a **man-made lake and is among the main attractions the government wants to promote**.

9.20 CABOMBA FURCUTA

- ❖ **Kole wetlands, an internationally important Ramsar site of high value biodiversity, has been facing the threat of alien invasive species.**
- ❖ **Cabomba furcuta, popularly called as Pink Bloom due its massive flowering, has been a new threat to the kole fields, in addition to water hyacinth and Salvinia molesta.**

ABOUT CABOMBA FURCUTA

- ❖ A **native of central and south America, Cabomba furcuta was brought to Kerala as an aquarium plant and has escaped to the wild.**
- ❖ The **submerged perennial aquatic plant grows in stagnant to slow-flowing freshwater.**
- ❖ The **fast growing Cabomba is a visual treat but becomes a potential outspread in water bodies by active stem propagation, hindering penetration of light into the water.**
- ❖ **Cabomba, which requires a large quantity of oxygen for its growth will choke water bodies and drainage canals.**
- ❖ It **causes decline in diversity of native aquatic plants and causes economic losses by affecting yield of freshwater fishes.**
- ❖ The key to **controlling the species is to mechanically remove them from the waterbody and dry them in terrestrial spaces, the team notes.**

9.21 RODTEP SCHEME

- ❖ The government has extended **export benefits under the RoDTEP scheme for one more year till June 2024, according to an official release.**

ABOUT THE SCHEME FOR REMISSION OF DUTIES AND TAXES ON EXPORTED PRODUCTS (RODTEP)

- ❖ The **RoDTEP Scheme was introduced by the Government as a duty remission scheme on exports and is being implemented from 1st January 2021.**
- ❖ The Scheme **provides a mechanism for reimbursement of taxes, duties and levies, which are currently not being refunded under any other mechanism, at the central, state and local level, but which are incurred by the export entities in the process of manufacture and distribution of exported products.**
- ❖ The **incentive is paid in the form of transferable duty credit scrip which can be used to pay import duties or sold in the market by exporters.**

- ❖ It has been **extended till 30th June 2024**.
- ❖ This scheme is a **replacement for the Merchandise Exports from India Scheme** which ended last year.
- ❖ It is a **WTO-compliant** scheme and follows the global principle that taxes/duties should not be exported.
- ❖ At present, **over 10,342** export items get the RoDTEP benefits.

10. INDEX AND REPORTS

10.1 GLOBAL FINANCE CENTRAL BANKER REPORT CARDS 2023

- ❖ **Reserve Bank of India (RBI) Governor Shaktikanta Das** has been awarded an **'A+'** rating in the prestigious **Global Finance Central Banker Report Cards 2023**.
- ❖ The other Bank Governors who earned an 'A+' grade are **Thomas J. Jordan (Switzerland), Nguyen Thi Hong (Vietnam)**.
- ❖ The **Central Banker Report Cards**, published annually by **Global Finance** since **1994**, grade the central bank governors of **101** key countries, territories and districts, including the **European Union, the Eastern Caribbean Central Bank, the Bank of Central African States and the Central Bank of West African States**.

10.2 WORLD FOOD PRICE INDEX

- ❖ The **United Nations Food and Agriculture Organization (FAO)** reported that the world food price index for food commodities fell to a new two-year low in August. This decline reversed a rebound that was observed in the previous month.

DETAILS

- ❖ **The FAO's price index**, which tracks globally traded food commodities, averaged 121.4 points in August, compared to a revised 124.0 points for the previous month. The July reading had initially been reported as 123.9, representing a rebound from a two-year low in June.
- ❖ The August figure was the lowest since March 2021 and marked a 24% decrease from the all-time high reached in March 2022 following Russia's invasion of Ukraine.
- ❖ The overall index decline was driven by decreases in the prices of dairy products, vegetable oils, meat, and cereals, despite a significant increase in the FAO's rice benchmark to a 15-year high due to Indian export restrictions

ABOUT WORLD FOOD PRICE INDEX

- ❖ **The World Food Price Index** is a key metric that tracks the prices of globally traded food commodities. It is published by the **Food and Agriculture Organization (FAO)** of the United Nations on a regular basis, typically on a monthly or quarterly basis.
- ❖ It consists of the average of **five commodity** group price indices (cereal, vegetable, dairy, meat, and sugar), weighted with the average export shares.

ABOUT FOOD AND AGRICULTURE ORGANIZATION

- ❖ The **Food and Agriculture Organization of the United Nations (FAO)** is a specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security.
- ❖ FAO is composed of **197-member states**.
- ❖ It is headquartered in **Rome, Italy**.
- ❖ It helps governments and development agencies coordinate their activities to improve and **develop agriculture, forestry, fisheries, and land and water resources**.
- ❖ It also conducts research, provides technical assistance to projects, operates educational and training programs, and collects data on **agricultural output, production, and development**.

REPORTS PUBLISHED BY FAO:

- ❖ **The State of World Fisheries and Aquaculture (SOFIA)**.
- ❖ **The State of the World's Forests (SOFO)**.

- ❖ The State of Food Security and Nutrition in the World (SOFI).
- ❖ The State of Food and Agriculture (SOFA).
- ❖ The State of Agricultural Commodity Markets (SOCO).

10.3 CHIEF ECONOMISTS OUTLOOK REPORT

- ❖ The World Economic Forum's latest Chief Economists Outlook report was published recently.
- ❖ The report combines research, consultations, and surveys with leading economists to provide insights into policy development and economic trends.

MAJOR FINDINGS

- ❖ Around six in 10 people believe that global economic challenges may hinder progress towards the UN Sustainable Development Goals (SDGs).
- ❖ About 86% of those surveyed expect the recent global inflationary surge to ease.
- ❖ Over 60% of chief economists anticipate a weakening global economy in the coming year.
- ❖ Over 90% expect moderate or strong growth this year in South Asia, notably India.
- ❖ Meanwhile, the outlook for China, where "prospects of strong rebound have been clouded by deflationary pressures", have dimmed.

10.4 GLOBAL DEBT MONITOR 2023

- ❖ It is released by the International Monetary Fund (IMF).

KEY HIGHLIGHTS

- ❖ The total debt stood at 238 percent of global gross domestic product last year, 9 percentage points higher than in 2019.
- ❖ In US dollar terms, debt amounted to \$235 trillion, or \$200 billion above its level in 2021.
- ❖ Private debt by households and non-financial corporations made the largest contribution to the overall decline.
- ❖ Global debt appears to have returned to its historical upward trend.
- ❖ China played a central role in increasing global debt in recent decades as borrowing outpaced economic growth.

10.5 STATE OF RHINO REPORT 2023

- ❖ Recently, the International Rhino Foundation (IRF) published the report, State of the Rhino, 2023.
- ❖ It documents current population estimates and trends for the five surviving rhino species in Africa and Asia.

MAJOR FINDINGS

- ❖ The global population of rhinos is estimated to be a little over 26,000.
- ❖ The Great One Horned Rhino (IUCN- Vulnerable) population in India, Bhutan and Nepal is increasing and is estimated to touch 4,014, noted the report.
 - ✓ The strict protection and transboundary management have helped to increase the rhino population by 20% in the past decade.
- ❖ The population of black rhinos, described as critically endangered, is increasing, the report noted; the population is estimated at 6,195.
 - ✓ Black rhinos or *Diceros bicornis* are spread across 12 African countries.
- ❖ However, populations of white rhinos and Sumatran rhinos are decreasing, estimated to be about 15,942 and 34 to 47.
 - ✓ White rhinos or *Ceratotherium simum* are estimated to be around 15,942, making them the most populous species found across 11 countries of Africa.
 - ✓ White rhino is near threatened as per IUCN.
 - ✓ The Sumatran Rhino is critically endangered.
 - ✓ Regarding Sumatran rhinos, the report observed that the species has four isolated populations and 10 subpopulations.

✓ But the **reclusive species seems to be venturing into deep jungles and sightings** and footprints are **becoming difficult to trace**.

❖ The **population of Javan rhinos (IUCN- critically endangered) is estimated to be stable, at around 76.**

THREATS

❖ Apart from **poaching and habitat loss, climate change-induced droughts** have been threatening the rhino population in Africa.

❖ On the other hand, **climate disruptions in Asia can lead to the deaths of rhinos.**

✓ Increased precipitation, longer monsoons and seasonal floods are already resulting in stranding, drowning or separation of calves from their mothers among Greater One-horned Rhinos.

❖ The impacts are **expected to exacerbate with intensified storms, increasing risks of diseases among humans and, potentially, rhinos.**

❖ Also **changes in weather conditions and landscape** may lead to the **expansion of invasive species and overtaking of rhino food plants, causing habitat degradation.**

10.6 INDIA AGEING REPORT

❖ **India Ageing Report 2023** was released recently.

❖ It has been produced by the **United Nations Population Fund, India**, in collaboration with the **International Institute for Population Sciences**.

❖ It throws light on the **challenges, opportunities, and institutional responses surrounding elderly care in India** as the **country's elderly are likely to make up 20% of the country's population by 2050.**

MAJOR FINDINGS

❖ The **three key government schemes** for the elderly are the **Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNWPS) and Annapurna Scheme.**

✓ **55%** of elderly are aware of the old-age pension scheme (IGNOAPS); **44%** about the widow pension scheme (IGNWPS); and **12%** about the Annapurna Scheme.

❖ The awareness of **MWPSC (Maintenance and Welfare of Parents and Senior Citizens) Act** is relatively very **low** at only **12%**.

❖ It cites **rural and urban disparities as well as State-wise variation** as far **awareness about the welfare schemes is concerned.**

❖ IT also points out that **access to social security schemes for older persons with disability** remains far less.

✓ According to the report **around 32% of the elderly with hearing and vision impairments availed the social insurance scheme.**

Of the total elderly population, around **2.5%** have hearing impairment and **3.7%** have vision impairment.

REASON FOR NOT AVAILING THE WELFARE SCHEMES

❖ **Multiple administrative procedures** including extensive documentation

❖ elderly are often unable to carry out these mandatory requirements **because of physical infirmities, lack of technical understanding among others.**

IIPS MUMBAI

❖ Established in **1956.**

❖ It was formerly known as **Demographic Training and Research Centre (DTRC).**

❖ It is under **administrative control of Ministry of Health and Family Welfare.**

10.7 WORLD UNIVERSITY RANKINGS 2024

❖ **Times Higher Education (THE)** has announced results of the 2024 edition of **World University Rankings.**

❖ THE has **considered 1,904 universities across 108 countries and regions for 2024 rankings.**

❖ In the global list, **UK's University of Oxford** is in the **top spot, followed by Stanford University and MIT in second and third places.**

❖ This time, **Indian Institute of Science (IISc) Bangalore** has featured in the **201-250 bracket.**

- ❖ Four Indian varsities – Anna University, Jamia Millia Islamia, Mahatma Gandhi University and Shoolini University of Biotechnology and Management Sciences – are in the 501-600 bracket.
- ❖ A record 91 Indian universities have made it to the list this year making a significant improvement in the country's rank.
 - ✓ Only 75 institutes from India were included in the rankings last year.
- ❖ India has now become the fourth best represented nation in the 2024 World University Rankings.
 - ✓ India was ranked at the sixth position last year.

10.8 GLOBAL INNOVATION INDEX (GII) 2023

- ❖ India has maintained its 40th rank in the latest Global Innovation Index (GII) 2023, making it a leading position holder among the lower middle-income country group.
- ❖ The GII tracks the innovation ecosystem performance of 132 global economies and the most recent global innovation trends.
- ❖ The GII is a reliable tool for governments across the world to assess the innovation-led social and economic changes in their respective countries.
- ❖ It is co-published annually by Cornell University, INSEAD Business School, and World Intellectual Property Organisation (WIPO).
- ❖ Top 5 rankers
 - ✓ Switzerland (for the 13th consecutive year)
 - ✓ Sweden
 - ✓ USA
 - ✓ United Kingdom
 - ✓ Singapore

FINDINGS ABOUT INDIA

- ❖ The country ranked first among the 37 lower-middle group income and first among the 10 economies in Central and South America.
- ❖ It holds the record for overperforming on innovation for the 13th consecutive year.
 - ✓ Along with India, the Republic of Moldova and Vietnam have also been innovation overperformers for 13 years in a row
- ❖ India holds top rankings in key indicators, including ICT services exports (at place 5), VC received (6), graduates in science and engineering (11) and global corporate R&D investors (13).
- ❖ Other parameters where India performed fairly better include– cultural and creative services exports as percentage of trade (18th rank), intangible asset intensity (8th rank), and overall market sophistication (20th rank).
- ❖ The broad areas where a lot of improvement needs to happen are infrastructure (84th rank), business sophistication (57) and institutions (56).
 - ✓ This year, the NITI Aayog will virtually be hosting ‘the India Launch of the GII 2023’ in partnership with the Confederation of Indian Industry and the WIPO.

WIPO has its origins in the United International Bureaux for the Protection of Intellectual Property (BIRPI), which was established in 1893.

World Intellectual Property Day is celebrated on 26th April.

ABOUT WIPO

- WIPO is one of the specialised agencies of United Nations created in 1967.
- Aim-to encourage creative activity, to promote the protection of intellectual property throughout the world.
- WIPO currently administers 26 international treaties.
- Members- 195 (including India since 1975)
- HQ- Geneva, Switzerland.

11. INTERNATIONAL, SUMMITS

11.1 INTERNATIONAL FINANCE CORPORATION

- ❖ International Finance Corporation (IFC) has committed a record \$2.97 billion (Rs 24,561 crore) across 30 projects in the financial year ended June 30, more than doubling its lending in the country.
- ❖ India remains IFC's largest country portfolio and together with its partners, its projects are driving innovative financing and climate initiatives to deliver impact at scale.

ABOUT INTERNATIONAL FINANCE CORPORATION

- ❖ It is the largest global development institution focused exclusively on the private sector.
- ❖ It was established in 1956.
- ❖ HQ- Washington DC, USA
- ❖ It is a World Bank Group member.
 - ✓ Other institutions in World Bank Group are-
 - ✓ International Bank for Reconstruction and Development
 - ✓ International Development Association
 - ✓ Multilateral Investment Guarantee Agency
 - ✓ International Centre for Settlement of Investment Disputes (India is not a member).

11.2 COMPACTS OF FREE ASSOCIATION

- ❖ The Compacts of Free Association are a series of treaties between the United States, the Federated States of Micronesia (FSM), the Republic of Palau, and the Republic of the Marshall Islands (RMI).
- ❖ These treaties were partially established as compensation for the loss of life, health, land, and resources due to the numerous nuclear weapons tests on the Marshall Islands and Bikini and Enewetak Atolls issued by the U.S. from 1946 to 1958.
- ❖ The Compacts allow citizens of Micronesia to live and legally work in the U.S. without a visa, as well as have access to social and health services.
- ❖ In return, the U.S. has sole access and substantial amount of military and veto power over these islands that are considered of strategic value.

11.3 INTERNATIONAL SOLAR ALLIANCE

- ❖ The International Solar Alliance (ISA) hosted its 5th regional meeting in Kigali, Rwanda, supported by the Government of Rwanda, with 36 countries and Ministers of 15 countries participating.
- ❖ A total of nine solar power demonstration projects were inaugurated in the Republic of Uganda, the Union of Comoros and the Republic of Mali.
 - ✓ Four of these projects are in Uganda, two in Comoros and three in Mali.

ABOUT

- ❖ The International Solar Alliance (ISA) is an action-oriented, member-driven, collaborative platform for increased deployment of solar energy technologies as a means for bringing energy access, ensuring energy security, and driving energy transition in its member countries.
- ❖ The ISA was conceived as a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solutions.
- ❖ HQ- Gurugram
- ❖ It was conceptualized on the sidelines of the 21st Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Paris in 2015.
- ❖ At present, 116 countries are signatories to the ISA Framework Agreement, of which 94 countries have submitted the necessary instruments of ratification to become full members of the ISA.
- ❖ All member states of the United Nations are now eligible to join the ISA.

- ❖ The ISA is guided by its **'Towards 1000' strategy** which aims to mobilise USD 1,000 billion of investments in solar energy solutions by 2030, while delivering energy access to 1,000 million people using clean energy solutions and resulting in installation of 1,000 GW of solar energy capacity.
 - ✓ This would help mitigate global solar emissions to the tune of 1,000 million tonnes of CO2 every year.
- ❖ Currently, the ISA has **9 comprehensive programmes**, each focusing on a distinct application that could help scale deployment of solar energy solutions.
- ❖ **Activities under the programmes focuses on 3 priority areas – Analytics & Advocacy, Capacity Building, and Programmatic Support**

11.4 THARMAN SHANMUGARATNAM WINS SINGAPORE PRESIDENTIAL ELECTION

- ❖ **Tharman Shanmugaratnam** who is an economist of Indian origin, has **emerged victorious in Singapore's presidential election.**
- ❖ He received **almost 70% of the votes casted.**

11.5 SATO KILMAN IS NEW VANUATU PM

- ❖ **Vanuatu's parliament** has elected **Sato Kilman** as the nation's new prime minister.
- ❖ This follows as a court upheld a vote of no-confidence in his predecessor, who had sought **closer ties with US allies amid China-US rivalry in the Pacific Islands.**

11.6 UNWTO

- ❖ **United Nations World Tourism Organization (UNWTO)** and **India's G20 Presidency**, through **India's Ministry of Tourism**, have joined hands to launch a new tool that will advance the contribution of tourism policies and initiatives towards the Sustainable Development Goals (SDGs).
- ❖ The **G20 Tourism and SDGs Dashboard** showcases the **pillars of the Goa Roadmap for Tourism as a Vehicle for Achieving the SDGs** around the **five priority areas set for the Tourism Working Group**, which are: **Green Tourism; Digitalisation; Skills; Tourism MSMEs; and Destination Management.**

ABOUT UNWTO

- ❖ The **World Tourism Organization (UNWTO)** is the **United Nations agency** responsible for the **promotion of responsible, sustainable and universally accessible tourism.**
- ❖ UNWTO has **159 Member States, 6 Associate Members, 2 Observers and over 500 Affiliate Members.**
- ❖ **Organizational structure:**
 - ✓ The **General Assembly** is the **supreme organ of the Organization.**
 - ✓ The **Executive Council** takes all measures, in consultation with the **Secretary-General**, for the implementation of the decisions and recommendations of the **General Assembly** and reports to the **Assembly.**
- ❖ **UNWTO headquarters - Madrid, Spain.**
- ❖ **Priorities include-**
 - ✓ **Mainstreaming tourism in the global agenda**
 - ✓ **Promoting sustainable tourism development**
 - ✓ **Fostering knowledge, education and capacity building**
 - ✓ **Improving tourism competitiveness**
 - ✓ **Advancing tourism's contribution to poverty reduction and development**
 - ✓ **Building partnerships**

11.7 GLOBAL BIOFUEL ALLIANCE (GBA)

- ❖ The Prime Minister of India announced the launch of the **Global Biofuels Alliance** on the side-lines of the **G20 Summit in New Delhi.**

GLOBAL BIOFUELS ALLIANCE

- ❖ Global Biofuels Alliance is an India-led Initiative to develop an alliance of Governments, International organisations and Industry to facilitate the adoption of biofuels.
- ❖ A total of **19 countries and 12 international organisations** have so far agreed to join the alliance, including both G20 members and non-member countries.
- ❖ **Members:** Argentina, Brazil, Canada, India, Italy, South Africa, USA, Bangladesh, Singapore, Mauritius, UAE, Iceland, Kenya, Guyana, Paraguay, Seychelles, Sri Lanka, Uganda and Finland.
- ❖ **India, Brazil and the US** are the founding members of the alliance.
- ❖ This Alliance will be aimed at facilitating cooperation and intensifying the use of sustainable biofuels, including in the transportation sector.
- ❖ India, the US and Brazil account for a total of **85 percent** of the global ethanol production with the US holding 55 per cent share followed by **Brazil 27 per cent and India 3 per cent.**

WHAT IS BIOFUEL?

- ❖ **Biofuels** are renewable energy sources derived from biomass, such as crop stubble, plant waste, and municipal solid waste.
- ❖ Biofuels may be solid, liquid or gaseous in nature.
- ❖ **Solid:** Wood, dried plant material, and manure
- ❖ **Liquid:** Bioethanol and Biodiesel
- ❖ **Gaseous:** Biogas

WHAT ARE DIFFERENT GENERATIONS OF BIOFUEL?

- ❖ **First generation:** It is produced from consumable food items containing starch (rice and wheat), sugar (beets and sugarcane) for bio alcohols, or vegetable oils for biodiesel.
- ❖ **Second generation:** It is mainly obtained from non-food feedstocks such as forest/industry/agricultural wastes and waste or used vegetable oils.
- ❖ **Third generation:** It is known as 'algae fuel' and is derived from algae in the form of both biodiesel and bioalcohols.
- ❖ **Fourth generation:** Like the third generation, 4G biofuels are made using non-arable land. However, unlike the third, they do not need the destruction of biomass.

11.8 INDIA-MIDDLE EAST-EUROPE MEGA ECONOMIC CORRIDOR

- ❖ Prime Minister Narendra Modi announced the launch of the India-Middle East-Europe Mega Economic Corridor on the sidelines of the G20 summit at the Bharat Mandapam Convention Center in New Delhi.

ABOUT THE CORRIDOR

- ❖ IMEC aims to establish economic connectivity between **India, the Middle East, and Europe.**
- ❖ It will address obstacles created by Pakistan's denial of overland access and China's connectivity plans in the region.
- ❖ The MOU on IMEC was signed **by India, USA, Saudi Arabia, UAE, European Union, Italy, France, and Germany.**
- ❖ The corridor will comprise of two separate corridors,
 - ✓ **The Eastern corridor - will connect India to the Arabian Gulf.**
 - ✓ **The Northern corridor- will connect the Arabian Gulf to Europe.**
- ❖ The corridor involves railway, ship-rail transit, and road transport routes.
- ❖ The rail and shipping corridor is part of the **Partnership for Global Infrastructure Investment (PGII).**
- ❖ Better connectivity is seen as a means to increase trade and build trust among nations.
- ❖ The G20 Delhi Declaration addressed contentious issues like Ukraine and acknowledged the impact of conflicts on global economic distress.

PARTNERSHIP FOR GLOBAL INFRASTRUCTURE INVESTMENT (PGII)

- ❖ **The infrastructure plan** was first announced in June 2021 during the G7 (or Group of Seven) summit in the UK.

- ❖ The G7 countries include the **United Kingdom, the United States, Canada, France, Germany, Italy, Japan, and the European Union (EU)**. US President Joe Biden had called it the Build Back Better World (B3W) framework. However, it did not register much progress.
- ❖ In 2022, during the **G7 summit in Germany**, the PGII was officially launched as a joint initiative to help fund infrastructure projects in developing countries through public and private investments.

CHINA'S BELT AND ROAD INITIATIVE (BRI):

- ❖ It was launched by China in 2013.
- ❖ The BRI consists of two main components:
 - ✓ **The Silk Road Economic Belt**, which is a land-based network connecting China to Europe through Central Asia and the Middle East, and
 - ✓ **The 21st Century Maritime Silk Road**, which is a sea-based network linking China to Southeast Asia, South Asia, Africa, and Europe via the South China Sea and the Indian Ocean.
- ❖ This initiative spans multiple continents, with projects in over **70 countries**.
- ❖ India, however, opposed the BRI as it included the **China-Pakistan Economic Corridor**, which connected Kashgar in China with the Gwadar port in Pakistan via Pakistan-occupied Kashmir.

11.9 WORLD TRADE ORGANISATION (WTO) DISPUTE SETTLEMENT SYSTEM

- ❖ **The G20 leaders** have expressed their commitment to working towards a "**fully and well-functioning**" dispute settlement system within the World Trade Organization (WTO) by the **year 2024**.
- ❖ This commitment is a significant development in international trade, as the dispute settlement mechanism of the WTO has faced challenges since the non-functionality of its appellate body in December 2019.

ABOUT WORLD TRADE ORGANIZATION (WTO)

- ❖ The **WTO was established on January 1, 1995**, by replacing the **General Agreement on Tariffs and Trade (GATT)**.
- ❖ It is an **international organisation** that promotes and regulates global trade among nations.
- ❖ Its main objective is to promote **free and fair trade** by eliminating barriers to trade, such as tariffs and quotas, and by ensuring that trade disputes are resolved through a transparent and predictable process.
- ❖ The main functions of WTO are:
 - ✓ **setting the rules of international trade;**
 - ✓ **negotiating and implementing trade agreements;**
 - ✓ **providing a forum for trade negotiations;**
 - ✓ **monitoring national trade policies;**
- ❖ The **WTO** also works closely with other international organizations, such as the **World Bank** and the **International Monetary Fund**, to promote global economic development and reduce poverty.
- ❖ It is headquartered in **Geneva, Switzerland**, and operates on a consensus-based decision-making process.

About WTO Dispute Settlement Mechanism:

- ❖ The Dispute Settlement Understanding (DSU) is the main WTO agreement on settling disputes.
- ❖ The General Council of WTO convenes as the Dispute Settlement Body (DSB) to deal with disputes between WTO members.
- ❖ The DSB has the authority to:
 - ✓ establish dispute settlement panels;
 - ✓ refer matters to arbitration, adopt panel, Appellate Body and arbitration reports;
 - ✓ maintain surveillance over the implementation of recommendations and rulings contained in such reports;
 - ✓ authorise suspension of concessions in the event of non-compliance with those recommendations and rulings;
- ❖ **Process:**
 - ✓ Ideally disputes are resolved through negotiations.
 - ✓ If this is not possible, WTO Members can request the establishment of a panel to settle the dispute.

- ✓ The panel will issue a report, which can subsequently be appealed before the WTO's Appellate Body on questions of law.

❖ **The Appellate Body:**

- ✓ Appeals are handled by the permanent **seven-member Appellate Body** which is set up by the DSB and broadly represents the range of **WTO membership**.
- ✓ It hears appeals from reports issued by panels in disputes brought by WTO members.
- ✓ The Appellate Body can uphold, modify or reverse the legal findings and conclusions of a panel.
- ✓ If a WTO member does not comply with recommendations from dispute settlement, then trade compensation or sanctions, for example in the form of increases in customs duties, may follow.

11.10 INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

- ❖ **Small island nations seek protection from ocean pollution, climate change and appeal to the United Nations maritime tribunal recently.**
- ❖ A group of 9 SIDS countries will urge the **International Tribunal for the Law of the Sea (ITLOS)** to rule on whether greenhouse gas emissions absorbed by the marine environment should be considered pollution.
- ❖ It will also seek the tribunal's advisory opinion on the obligations countries have to prevent it.
- ❖ **Small Island Developing States (SIDS)** - Group of low-lying island nations, home to approximately 65 million people.
- ❖ They are extremely vulnerable to the impacts of climate change despite being responsible for **less than 1% of global greenhouse gas emissions**.

ABOUT THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA:

- ❖ It is an independent judicial body established by the **1982 United Nations Convention on the Law of the Sea**.
- ❖ **Composition**
 - ✓ The Tribunal is composed of 21 independent members.
 - ✓ Members elected by secret ballot by the States Parties to the Convention.
 - ✓ Each State Party may nominate up to two candidates.
- ❖ **Jurisdiction**
 - ✓ It has jurisdiction over any dispute concerning the interpretation or application of the Convention and over all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal.
 - ✓ Disputes relating to the Convention may concern the delimitation of maritime zones, navigation, conservation and management of the living resources of the sea, protection and preservation of the marine environment and marine scientific research.
- ❖ The Tribunal is open to States Parties to the Convention (i.e. States and international organisations which are parties to the Convention).
- ❖ It is also open to entities other than States Parties, i.e., States or intergovernmental organisations which are not parties to the Convention, and to state enterprises and private entities.
- ❖ The seat of the Tribunal is in the City of **Hamburg, Germany**.

11.11 GIFTS TO G20 LEADERS

- ❖ **Different Heads of States & Leaders Representing their Countries at the recently held G20 Summit in New Delhi got a Special Gift Hamper from the Government of India.**
- ❖ Some of the products are the product of centuries of tradition & cherished across the world for their unparalleled workmanship and quality.
- ❖ The hamper had the following products:

THE GIFT SIGNIFICANCE

Sheeshamwood Sandook With Brass Patti

- ❖ **Sandook** is the Hindi word for a treasure chest.

- ❖ Traditionally, it is a strong box made of solid old wood or metal, with a lid on top and embellishments all over.
- ❖ The Sandook gifted was handcrafted using **Sheesham (Indian Rosewood)**, which is valued for its strength, durability, distinctive grain patterns and rich colour.
- ❖ **The brass PATTI (strip)** was delicately etched and embedded on to the wood.

KASHMIRI SAFFRON

- ❖ **Saffron** has been valued across cultures and civilizations for its unparalleled culinary and medicinal value.
- ❖ **Kashmiri Saffron's** intense aromatic profile, vibrant colour and unmatched potency sets it apart.
- ❖ This is due to the crisp air, abundant sunlight and well-drained soil of Kashmir, which yields saffron with a higher concentration of essential oils.

PEKOE DARJEELING AND NILGIRI TEA

- ❖ **Pekoe Darjeeling and Nilgiri Tea** are two illustrious gems from Bharat's tea tapestry, epitomizing the delicate art of tea cultivation and infusion.
- ❖ **Darjeeling tea** is the most valued tea in the world.
- ❖ **Nilgiri Tea** comes from the most spectacular mountain range in southern India, cultivated amidst the mountains' lush terrain at an elevation of **1000-3000 ft.**

ARAKU COFFEE

- ❖ **Araku Coffee** is the world's first terroir mapped coffee, grown on organic plantations in the **Araku Valley of Andhra Pradesh.**
- ❖ Araku Coffee is known for its unique texture and a symphony of flavours that makes for a smooth, well-balanced cup.

SUNDARBANS HONEY

- ❖ **Sundarbans** is home to wild colonies of honeybees.
- ❖ The distinct and rich flavour profile of Sundarbans honey mirrors the bio-diversity of the area.
- ❖ It is less viscous than other types of honey.

KASHMIRI PASHMINA

- ❖ The **Kashmiri Pashmina shawl** has many enchanting stories woven into its fabric.
- ❖ '**Pashm**' means wool in **Persian.**
- ❖ In ancient courts, Pashmina was used as an indicator of rank and nobility.

ZIGHRANA ITTAR

- ❖ **Zighrana Ittar** is a masterpiece of fragrance from **Kannauj in Uttar Pradesh.**
- ❖ Ittar (perfume) is an essential oil derived from botanical sources.
- ❖ It showcases a centuries-old tradition of exquisite perfume crafting.

KHADI SCARF

- ❖ Synonymous with **Mahatma Gandhi, khadi** is an eco-friendly clothing material most beloved for its beautiful texture and versatility throughout the seasons.
- ❖ It is also one of the most important symbols of India's freedom struggle.

COIN BOX

- ❖ To commemorate India's G20 presidency, Prime Minister Narendra Modi released special **G20 postage stamps and coins** on July 26 this year.
- ❖ The G20 India Stamps and Coins were released during the inauguration of Bharat Mandapam at Pragati Maidan.
- ❖ The designs of both the coins and stamps draw inspiration from India's G20 logo and theme of '**Vasudhaiva Kutumbakam**' or '**One Earth. One Family. One Future**'.

BANARASI SILK STOLE IN EBONY JALI BOX

- ❖ Handcrafted using delicate lattice or jail work on the extremely dense and fine textured Indian Ebony wood.

ASSAM STOLE IN KADAM WOOD BOX

- ❖ Stole using Muga silk.
- ❖ Kadam – Burflower tree wood handcrafted by Karnataka artisans.

KANCHIVARAM STOLE IN KADAM WOOD BOX

- ❖ Stole using pure mulberry silk threads.

IKKAT STOLE IN TEAK WOOD BOX

- ❖ Stole by artisans of Odisha using mulberry silk with the **exquisite Ikkat technique**.
- ❖ Box by artisans of **Gujarat**.

11.12 WEST COAST REFINERY PROJECT

- ❖ **India and Saudi Arabia** recently agreed to speed up the implementation of the **\$50 billion West Coast refinery project**.
- ❖ **West Coast Refinery Project** first conceptualised in **2014**, the West Coast refinery project, also known as the **Ratnagiri Refinery and Petrochemicals Ltd. (RRPCL)**, was envisioned as **India's largest greenfield refinery** with a capacity of **60 million tonnes per annum** and is touted to become the largest integrated refinery and petrochemical facility in the world.
- ❖ The project is supposed to be set up on India's western coast, specifically in **Ratnagiri, Maharashtra**.
- ❖ The refinery is expected to produce around **1.2 million barrels of oil a day** when completed, alongside the various petroleum products that will be produced by attached petrochemical plants.
- ❖ Three of India's leading government-owned public sector undertakings in the oil and gas sector came together in a joint venture partnership called **RRPCL**.
- ❖ **RRPCL is a 50:25:25 joint venture formed in 2017** by India's three national oil companies, **Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL), and Hindustan Petroleum Corporation Limited (HPCL)**.
- ❖ **In 2019, Saudi Aramco and the Abu Dhabi National Oil Company (ADNOC)** decided to get involved as well, collectively acquiring a **50 percent stake** in the project, which is estimated to be worth around **Rs 3 lakh crore** purely in set-up costs.

INDIA-SAUDI ARABIA STRATEGIC PARTNERSHIP COUNCIL

- ❖ **Prime Minister Narendra Modi and Saudi Arabia's Crown Prince Mohammed bin Salman (MBS)** recently chaired the first meeting of the **India-Saudi Arabia Strategic Partnership Council (SPC)**.
- ❖ **Strategic Partnership Council established in 2019**, aims to enhance the relationship between the two countries and has two main pillars: the Committee on Political, Security, Social, and Cultural Cooperation and the Committee on Economy and Investments.
- ❖ These committees have four levels of engagement, including summit-level meetings, ministerial-level discussions, senior officials' meetings, and joint working groups.
- ❖ During their recent meeting, India and Saudi Arabia agreed to expedite the **\$50-billion West Coast refinery project** and identified areas such as energy, defence, semiconductor, and space for intensified cooperation.
- ❖ West Coast Refinery Project aims to set up Asia's largest refinery in Ratnagiri, Maharashtra.
- ❖ It is a trilateral project between ARAMCO (Saudi), ADNOC (UAE) and Indian companies.
- ❖ **India and Saudi Arabia have signed eight agreements** during the State visit of Crown Prince and **PM of Saudi Arabia Mohammed bin Salman bin Abdulaziz Al Saud**. These are:
 - ✓ Memorandum of Understanding on cooperation in the field of **energy**.
 - ✓ Agreement in the field of digitalisation and electronic manufacturing between the IT ministries of both sides
 - ✓ Agreement between **Central Vigilance Commission** of India and its counterpart the Saudi Oversight and Anti-Corruption Authority.
 - ✓ Agreement between the **National Archives**.
 - ✓ Agreement between Invest India on the Indian side and the Ministry of Investment on Saudi.
 - ✓ Agreement between the two **EXIM banks**
 - ✓ Agreement between the **Small and Medium Enterprises Bank** of two sides, that is SIDBI and the SME Bank of Saudi Arabia

- ✓ Agreement in the field of **Desalination**.

11.13 INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY

- ❖ India can now issue the **International Organization of Legal Metrology (OIML) Certificates**.

ABOUT INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY

- ❖ It is an Intergovernmental organization established in **1955**.
- ❖ **The International Organization of Legal Metrology** is an intergovernmental treaty organization which:
 - ✓ Develops model regulations, standards and related documents for use by legal metrology authorities and industry.
 - ✓ **Provides mutual recognition systems** which reduce trade barriers and costs in a global market.
 - ✓ **Promotes and facilitates** the exchange of knowledge and competencies within the legal metrology community worldwide,
 - ✓ **Cooperates with other metrology bodies** to raise awareness of the contribution that a sound legal metrology infrastructure can make to a modern economy.
- ❖ It is Headquartered at **Paris, France**.
- ❖ It is international standard-setting body in the sense of the **World Trade Organization's Technical Barriers to Trade (TBT) Agreement**.
- ❖ **Members** - It has **63 Member States and 64 Corresponding Members**. India became the member in **1956**.
- ❖ To sell a weight or measure in the International market an OIML Pattern Approval certificate is mandatory.

INDIA AND THE OIML

- ❖ **India** has now become authority for issuing OIML certificate for selling weights & measures anywhere in the world and Department of Consumer Affairs can issue the certificate now.
- ❖ **India now joins as a 13th country to issue OIML approval certificates**.
- ❖ Other countries - **Australia, Switzerland, China, Czech Republic, Germany, Denmark, France, United Kingdom, Japan, Netherlands, Sweden, and Slovakia**, can also issue this certificate.
- ❖ **The OIML-Certificate System** is a system for issuing, registering and using OIML certificates, and their associated OIML type evaluation/test reports.
- ❖ Advantages for India - Increase in exports, earning of foreign exchange, and generation of employment.

11.14 UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE LAW (UNCITRAL)

- ❖ **India hosted the inaugural United Nations Commission on International Trade Law (UNCITRAL) South Asia conference**.
- ❖ The conference was organised jointly by the **Ministry of External Affairs, UNCITRAL and the organisation's national coordination committee for India**.

ABOUT UNCITRAL

- ❖ UNCITRAL was **established in 1966** with a recognition that **"international trade cooperation among States is an important factor in the promotion of friendly relations and, consequently, in the maintenance of peace and security"**.
- ❖ UNCITRAL is described as **"the principal legal entity within the United Nations system dedicated to international trade law."**
- ❖ It aims to **modernize and harmonize rules on international business**.
- ❖ HQ- **New York, USA**
- ❖ Annual sessions take place **once each year usually in the summer** and are **held alternatively in New York and at the Vienna International Centre in Vienna**.
- ❖ **Membership**
 - ✓ The UN General Assembly **elects members for terms of six years**.
 - ✓ These aren't unison, though, as the **terms of half of the members expire every three years**.
 - ✓ Membership of UNCITRAL is **determined by the U.N. General Assembly**.
 - ✓ The **original membership comprised 29** member states of the U.N.

- ✓ But this number was expanded to 36 in 1973, in 2002 to 60 states, and again in 2022 with a total of 70 member states.

11.15 LIPTAKO-GOURMA CHARTER

- ❖ The military leaders of **Mali, Burkina Faso and Niger** signed a **mutual defence pact**.
- ❖ The **Liptako-Gourma Charter** establishes the **Alliance of Sahel States (AES)**.
- ❖ The charter **binds the signatories to assist one another — including militarily — in the event of an attack on any one of them**.
- ❖ It **also binds the three countries to work to prevent or settle armed rebellions**.
- ❖ Its aim is to **"establish an architecture of collective defence and mutual assistance for the benefit of our populations"**.
- ❖ The **Liptako-Gourma region — where the Mali, Burkina Faso and Niger borders meet — has been ravaged by jihadism in recent years**.
- ✓ All three countries have **undergone coups since 2020**.

11.16 FIVE EYES ALLIANCE

- ❖ The alliance includes- **US, UK, Australia, New Zealand and Canada**.
- ❖ These partner countries **share a broad range of intelligence with one another in a unified multilateral arrangement**

11.17 ASIAN PREMIUM

- ❖ Saudi Arabia, the **world's second largest oil producer**, has **slashed the premium charged on exports to India** after India **began sourcing the bulk of its energy requirements from Russia**.
- ❖ **Asian premium** is an **extra amount levied by the Organization of the Petroleum Exporting Countries (Opec) from Asian countries above the actual selling price**.

11.18 L.69 GROUPING

- ❖ The Foreign Ministers of the **L.69 group of nations** held a meeting on the sidelines of the 78th Session of the United Nations General Assembly to **exchange views on reform of the United Nations Security Council**.
- ❖ The leaders called the **expansion of the UNSC "essential" to make the body "more representative, legitimate, and effective"**.
- ❖ The L.69 group consists of **developing nations from Asia, Africa, Latin America, the Caribbean, and the Pacific (Small Island Developing States)**.
- ❖ They are **united by a common desire to achieve comprehensive reform of UNSC and strengthen multilateralism**.
- ❖ **India is a member**.

11.19 INTERNATIONAL COFFEE ORGANIZATION

- ❖ **International Coffee Organization (ICO)**, in collaboration with the **Coffee Board of India, Government of India, Government of Karnataka, and the Coffee industry**, is hosting the **5th World Coffee Conference (WCC)** at **Bangalore**.
- ❖ It is for the **first time that a global coffee event is being held in India and Asia**.
- ❖ The **central theme** of the event will be **'Sustainability Through Circular Economy and Regenerative Agriculture'**.

ABOUT INTERNATIONAL COFFEE ORGANIZATION

- ❖ It is the **main intergovernmental organization for coffee, bringing together exporting and importing Governments to tackle the challenges facing the world coffee sector** through international cooperation.
- ❖ The International Coffee Organization was **established in 1963** when the **first International Coffee Agreement (ICA)** entered into force in **1962** for a **period of five years**, and it has **continued to operate under successive Agreements negotiated since then**.

- ❖ **Membership: 43 exporting members (including India) and 6 importing members.**
 - ✓ Its **Member Governments** represent **98% of world coffee production** and **67% of world consumption.**
- ❖ **Mission-** To strengthen the global coffee sector and promote its sustainable expansion in a market-based environment for the betterment of all participants in the coffee sector.
- ❖ It **administers the International Coffee Agreement (ICA)**, an important instrument for development cooperation.
 - ✓ The **latest Agreement**, the ICA 2007, **entered into force on 2 February 2011.**

12. DAYS TO REMEMBER

12.1 NATIONAL TEACHERS DAY- SEPTEMBER 5TH

- ❖ National Teachers' Day in India is **annually celebrated on September 5th** to honor and celebrate the contributions of teachers to society.
- ❖ The day is also **observed as a tribute to the memory of Dr. Sarvepalli Radhakrishnan.**

ABOUT DR S. RADHAKRISHNAN

- ❖ **Dr S. Radhakrishnan** was born on **5th September, 1888**, in Tiruttani, Madras Presidency.
- ❖ He was the **second President of India from 1962 to 1967.**
- ❖ Dr. Radhakrishnan was a **scholar, philosopher, and teacher.**
- ❖ He held the prestigious position of **Professor of Philosophy** in the **King George V Chair of Mental and Moral Science at the University of Calcutta from 1921 to 1932.** His contributions extended **beyond India**; he **represented the university at international platforms** like the **Congress of the Universities of the British Empire in 1926** and the **International Congress of Philosophy at Harvard University, USA** in the same year.
- ❖ Dr Radhakrishnan's brilliance garnered him **16 Nobel Prize nominations in Literature** and **another 11 in Peace.**

Note:

- ❖ **World Teachers Day** is observed on **October 5th**. It is an initiative led by organisations such as **UNESCO, UNICEF and ILO.**

12.2 INTERNATIONAL DAY OF CLEAN AIR FOR BLUE SKIES- SEPTEMBER 7TH

- ❖ The **International Day of Clean Air for blue skies** is annually observed on **7th of September.**
- ❖ The theme for this year is **'Together for Clean Air'**. It aims to highlight the urgent need for stronger partnerships, increased investment, and shared responsibility for overcoming air pollution.

12.3 INTERNATIONAL LITERACY DAY- SEPTEMBER 8TH

- ❖ **International Literacy Day** is celebrated **annually on September 8th.**
- ❖ The day is **celebrated by the United Nations Educational, Scientific and Cultural Organisation (UNESCO)** at the global, regional, country, and local levels across the world.
- ❖ **International Literacy Day** was **first celebrated in 1967.**
- ❖ This year's **International Literacy Day** will be **celebrated worldwide** under the theme, **'Promoting literacy for a world in transition: Building the foundation for sustainable and peaceful societies'**.

12.4 WORLD PHYSIOTHERAPY DAY- SEPTEMBER 8TH

- ❖ **World Physical Therapy Day or World Physiotherapy Day 2023** is observed on **September 8th every year.**
- ❖ Its purpose is **to raise awareness of the vital contribution physical therapists** make to people's health and wellbeing.
- ❖ The **theme** for World Physiotherapy Day 2023 is **"Prevention and Management of Osteoarthritis"**.

12.5 HINDI DIWAS

- ❖ **Hindi Diwas** or the **National Hindi Day** is celebrated every year in India on **September 14** to mark the day of adoption of Hindi as the official language by the **Constituent Assembly of India in 1949**.
- ❖ Hindi, written in the **Devanagari script**, was adopted as the official language of the Republic of India on **14th September, 1949**.
- ❖ Besides Hindi, English is the other official language (**Article 343 of the Constitution**).
- ❖ Officially, the first Hindi Day was celebrated on **September 14, 1953**.
- ❖ Hindi is an eighth schedule language of the **22 officially** recognized Indian languages.
- ❖ **Article 351** pertains to '**Directive for development of the Hindi language**'.

12.6 'VAISHALI FESTIVAL OF DEMOCRACY'

- ❖ **The Indian Council for Cultural Relations (ICCR)** will be holding a '**Festival of Democracy**' at **Bihar's Nalanda University** exhibiting India's rich democratic traditions.

INTERNATIONAL DAY OF DEMOCRACY

- ❖ In **2007** the **United Nations General Assembly** resolved to observe **15 September** as the **International Day of Democracy**—with the purpose of promoting and upholding the principles of democracy
- ❖ This year's theme for the International Day of Democracy, "**Empowering the next generation,**"

ANCIENT CITY OF VAISHALI:

- ❖ It is a great Buddhist pilgrimage and birthplace of **Lord Mahavira**, the last **Tirthankar of Jainism**. It is believed to be the first republic in the world.
- ❖ **Buddha** visited this place thrice, delivered his last sermon and announced his **Nirvana here at Vaishali**.
- ❖ After the death of **Buddha**, the **Second Buddhist Council** was held at **Vaishali**.

NALANDA UNIVERSITY

- ❖ It was a centre of higher learning that attracted scholars from different parts of the country as well as the world from **the 5th century CE to 12th century CE**.
- ❖ It was located in present day **Rajgir, Bihar**.

12.7 ENGINEER'S DAY

- ❖ In India, the **Engineer's Day** is celebrated on **September 15** every year, since **1968**, to recognise the contribution of engineers' in the development of the nation.
- ❖ The 2023 National Engineers Day theme is '**Engineering for a sustainable future**'.
- ❖ Engineers' Day is observed every year on **September 15** across India to celebrate the birth anniversary of **M Visvesvaraya** and recognise the contributions made by him in the field of science and technology.
- ❖ Sir MV was regarded as the "**Father of Modern Mysore**".
- ❖ He was awarded '**Bharat Ratna**' for his exceptional contribution to the building of India in **1955**.
- ❖ In **1912**, **Visvesvaraya** was appointed **Dewan of Mysore** by **Maharaja Krishnaraja Wadiyar IV**.

12.8 WORLD OZONE DAY

- ❖ **World Ozone Day** or **International Day for the Preservation of the Ozone Layer** is observed annually on **16 September**.
- ❖ **The Theme: Montreal Protocol: fixing the ozone layer and reducing climate change**.
- ❖ The day is dedicated to highlight the importance of **Ozone layer** and its significant contribution in protecting our planet Earth.
- ❖ **Ozone layer is made up of Trioxxygen molecule (O₃)** and has the potential to absorb harmful Ultraviolet (UV) rays.
- ❖ **World Ozone Day** is recognised to commemorate the Montreal Protocol --an environmental agreement that was established in **1987** against the **Ozone depleting substances (ODS)** including **Chlorofluorocarbons (CFCs), Halons, Carbon Tetrachloride, and Methyl Chloroform**.

12.9 WORLD BAMBOO DAY- SEPTEMBER 18TH

- ❖ World Bamboo Day is observed on **September 18 every year** to raise awareness about bamboo worldwide.
- ❖ The **purpose** of World Bamboo Day is **to increase awareness among the public about the economic advantages of bamboo and the significance of its cultivation in emerging industries.**

12.10 WORLD ALZHEIMER'S DAY

- ❖ World Alzheimer's Day is observed **annually on September 21st.**
- ❖ It is a **global initiative aimed at increasing awareness about Alzheimer's disease and reducing the stigma associated with it and other forms of dementia.**
- ❖ The theme for Alzheimer's Day 2023 is **'Never Too Early, Never Too Late'**, which **emphasises the crucial importance of identifying risk factors and taking proactive steps to reduce those risks.**

ABOUT ALZHEIMER'S DISEASE

- ❖ Alzheimer's disease, the most prevalent type of dementia, **accounts for 60-70% of dementia cases.**
- ❖ It is a **progressive brain disorder that affects memory, cognitive function, and behavior, gradually impacting an individual's daily life.**

12.11 WORLD RHINO DAY- SEPTEMBER 22ND

- ❖ World Rhino Day is **observed annually on September 22nd.**
- ❖ The day is **an annual alarm bell reminding us about the importance of spreading awareness about the need to protect and conserve all five species of rhinos.**
- ❖ Currently, **three species of rhinos — black, Javan and Sumatran — are classified as critically endangered.**
 - ✓ **White Rhino-Near Threatened**
 - ✓ **One Horned Rhino- Vulnerable**

12.12 INTERNATIONAL DAY OF SIGN LANGUAGES- SEPTEMBER 23RD

- ❖ **International Day of Sign Languages** is observed annually on **September 23rd** to raise awareness about the **crucial role sign language plays in upholding the human rights of individuals who are deaf.**
- ❖ The theme for this year is **"A World Where Deaf People Everywhere Can Sign Anywhere!"**.

12.13 WORLD RIVERS DAY

- ❖ **World Rivers Day** is observed annually on the **fourth Sunday in September.**
- ❖ This year it was observed **on September 24th.**
- ❖ It aims to **increase public awareness about all rivers in the world and their importance.**
- ❖ The **annual global event also promotes the conservation and sustainable management** of these vital natural resources.
- ❖ The first **World Rivers Day** was observed in **2005**, following the **launch that year of the Water for Life Decade by the United Nations.**
- ❖ The **proposal** for such a celebration was initiated by **renowned Canadian river advocate Mark Angelo.**

12.14 WORLD ENVIRONMENTAL HEALTH DAY 2023- SEPTEMBER 26TH

- ❖ **World Environmental Health Day** is celebrated **annually on September 26th** to **highlight the intricate relationship between humans and their environment.**
- ❖ The **International Federation of Environmental Health**, in **2011**, announced World Environmental Health Day to be celebrated every year on September 26.
- ❖ The **theme** for this year's World Environmental Health Day is - **Global Environmental Public Health: Standing up to protect everyone's Health each and every day.**

12.15 WORLD TOURISM DAY- SEPTEMBER 27TH

- ❖ **World Tourism Day 2023** is observed annually on 27th September globally.
- ❖ World Tourism Day was established by the United Nations World Tourism Organization (UNWTO) in 1980.
- ❖ The theme for **World Tourism Day 2023** is "Tourism and green investment".
 - ✓ This theme emphasises the importance of making tourism more sustainable and environmentally friendly.

12.16 WORLD RABIES DAY 2023- SEPTEMBER 28TH

- ❖ World Rabies Day is observed annually **September 28th**.
- ❖ Established by the **Global Alliance for Rabies Control (GARC)** and recognized by the **World Health Organization (WHO)**, it day aims to promote efforts to combat rabies and highlight the importance of prevention.
- ❖ This year's theme is "All for 1, One Health for All".

ABOUT RABIES

- ❖ Rabies is a **vaccine-preventable, zoonotic, viral disease**.
- ❖ It is caused by a **Ribonucleic Acid (RNA) virus** that is present in the saliva of a rabid animal (dog, cat, monkey, etc).
- ❖ **Symptoms** include headaches, high fever, excessive salivation, paralysis, mental disturbances, and confusion, ultimately leading to death.
- ❖ It has **100% fatality rate** if left untreated.

12.17 INTERNATIONAL DAY FOR UNIVERSAL ACCESS TO INFORMATION 2023- SEPTEMBER 28TH

- ❖ The **International Day for Universal Access to Information** was proclaimed on **15 October 2019** at the **74th UN General Assembly** to be held on **28th September**.
- ❖ This year, the global celebrations in **Oxford, United Kingdom** on **28 September 2023** will center around the theme of "the importance of the online space for access to information."

12.18 WORLD HEART DAY- SEPTEMBER 29TH

- ❖ **World Heart Day** is observed annually on **September 29th** around the world.
- ❖ In 2023, the theme for **World Heart Day** is "Use Heart, Know Heart"
- ❖ The **first World Heart Day** was celebrated in 1999.
- ❖ The date of **September 29th** was chosen as it marks the anniversary of the foundation of the **World Heart Federation**, which was established in 1978.
 - ✓ **World Heart Federation** is a global non-governmental organization dedicated to the prevention and control of cardiovascular disease.

12.19 INTERNATIONAL TRANSLATION DAY 2023- SEPTEMBER 30TH

- ❖ **International Translation Day (ITD)** is celebrated every year on **30th September**.
- ❖ The day is observed by the **International Federation of Translators (FIT)** to highlight the significant role of translators all across the world.
- ❖ International Translation Day was established by United Nations in 2017.
- ❖ The theme of International Translation Day 2023 is "Translation Unveils the Many Faces of Humanity."
- ❖ According to UNESCO, "The theme places a special emphasis on scrutinizing power dynamics within the realm of translation, particularly concerning indigenous language communities."

13. APPOINTMENTS

13.1 JAYA VERMA SINHA TO HEAD RAILWAY BOARD

- ❖ The government has recently appointed **Jaya Verma Sinha** as the **Chairperson of the Railway Board**.
 - ✓ The Board is the **top decision-making body for the Ministry of Railways**.
- ❖ Ms. Sinha is the first **ever woman to head the Board in its 118-year-old history**.

13.2 R MADHAVAN IS FTII PRESIDENT

- ❖ Renowned actor **R Madhavan** has **been nominated as the new President** of the **Film and Television Institute of India (FTII), Pune**.

ABOUT FTII

- ❖ The **Film and Television Institute of India (FTII)** was **set up by the Government of India in 1960**, in the **premises of the erstwhile Prabhat Studios in Pune**.
- ❖ It was formerly known the '**Film Institute of India**'. In 1971, FTII came to be known as the '**Film and Television Institute of India**' (FTII).
- ❖ FTII is an **Autonomous Society** under the **Ministry of Information and Broadcasting**, run by a **Governing Council and its appointed Director**.

14. PERSON IN NEWS

14.1 SREE NARAYAN GURU

- ❖ Sree Narayan Guru's **169th birth anniversary was observed recently**.

ABOUT SREE NARAYANA GURU

- ❖ He was a 19th century **spiritual guru and social reformer**.
- ❖ He was **born in 1856 into a backward Ezhava family** in an era **when people from such communities faced social injustice** in the caste-ridden society of Kerala.
- ❖ He became **one of the greatest proponents and re-evaluators of Advaita Vedanta**, the **principle of non-duality put forward by Adi Shankara**.
- ❖ Sree Narayana Guru had propagated the **message of 'One Caste, One Religion and One God for Mankind'**.
- ❖ In **1888**, he built a **temple dedicated to Lord Shiva at Aruvippuram** which was against the caste-based restrictions of the time.
- ❖ In 1903, he **established the Sree Narayana Dharma Paripalana Yogam (SNDP)** as the **founder and president**.
- ❖ He **also led the 'Vaikom Satyagraha' in 1923-24 to protest movement against caste discrimination, untouchability, and inequality**.
- ❖ In a temple he consecrated at Kalavancode, he **kept mirrors instead of idols** to symbolize that the **divine was within each individual**.
- ❖ He also Guru founded the **Sivagiri foundation in 1924** to promote the **virtues of cleanliness, education, devotion, agriculture, handicrafts, and trade**.
- ❖ Literary contribution- **Advaitha Deepika, Asrama, Thevarappathinkangal, Brahmaidya Panchakam** etc.

14.2 MALATI MEM

- ❖ The **North East Regional Centre (NERC)** of the **Indira Gandhi National Centre for the Arts (INGCA)** staged **Malati Mem** recently.

- ❖ It is a **multilingual play based on the life and the revolutionary zeal of Mangri Orang, an Adivasi with roots in central India.**

ABOUT MANGRI ORANG

- ❖ Mangri Orang is an **unsung hero of India's struggle for freedom from British rule.**
- ❖ She was a **woman labourer in the Lalmati tea garden of Tezpur.**
- ❖ She was **gunned down in 1921 for leading a fight against foreign liquor and opium pushed during the colonial period.**
- ❖ She is **considered to be the first woman martyr of Assam in the freedom struggle.**
- ❖ **Fellow plantation workers used to call her Malati Mem, the second word being a shorter form of memsahib.**

14.3 FORMER CRICKETER HEATH STREAK PASSES AWAY

- ❖ **Zimbabwe's former cricket captain Heath Streak** has passed away at the age of 49, following a long battle with colon and liver cancer.
- ❖ He was a **cricketing legend, was particularly known for his prowess as a fast bowler.**
- ❖ He held the **distinction of being Zimbabwe's all-time leading wicket-taker in Test cricket, having taken 216 wickets at an average of 28.14.**

14.4 MALINI RAJURKAR PASSES AWAY

- ❖ Famous **Hindustani classical vocalist Malini Rajurkar** passed away recently.
- ❖ She is noted for her **command over the Tappa and the Tarana genre.**
- ❖ She was an **exponent of Gwalior gharana** and one of the **foremost proponents of 'khayal' and 'tappa' genre.**

14.5 PANDIT DEENDAYAL UPADHYAYA

- ❖ **PM Modi** has unveiled a **72-ft statue of Pandit Deendayal Upadhyaya** in New Delhi on his **107th birth anniversary.**
- ❖ The statue has been **erected on Deendayal Upadhyaya Marg in the national capital.**

ABOUT PANDIT DEENDAYAL UPADHYAYA

- ❖ Pandit Deendayal Upadhyaya was **born in Mathura on 25 September 1916.**
- ❖ He was a **co-founder of BJP's forerunner, the Bharatiya Jana Sangh (BJS) and a thinker of the Rashtriya Swayamsevak Sangh (RSS).**
- ❖ He pioneered the **monthly magazine 'Rashtra Dharma', a weekly 'Panchajanya' and the daily called 'Swadesh'.**
- ❖ He **became president of the Jana Sangh in December 1967.**
- ❖ He is known for his principle of "**integral humanism**" which is defined as "**a classless, casteless and conflict-free social order**".
- ❖ Upadhyaya is **also known for his efforts to uplift the poor and less fortunate, and so his birth anniversary is celebrated on Antyodaya, which means 'rising of the last'.**
 - ✓ India celebrates **Antyodaya Diwas annually on September 25th** to commemorate the birth anniversary of Pandit Deendayal Upadhyaya.

14.6 M S SWAMINATHAN PASSES AWAY

- ❖ **Mankombu Sambasivan Swaminathan, the father of green revolution in India,** passed away recently at the age of 98.
- ❖ He had played a **crucial role in heralding the Green Revolution that helped India combat food insecurity.**

ABOUT M S SWAMINATHAN

- ❖ **He was born in Kumbakonam, Madras Presidency in 1925.**

- ❖ He **cleared** the examination for the civil services but **Swaminathan** was interested in agriculture foremost and soon **ended up** pursuing research in the field.
- ❖ He served as the **Director General of the Indian Council of Agricultural Research (ICAR)**.
- ❖ He also became **Director General of the International Rice Research Institute in Philippines**
- ❖ He established **M S Swaminathan Research Foundation in 1988**.
- ❖ He was the Chairman of the **National Commission on Farmers in 2004**.

CONTRIBUTION TO GREEN REVOLUTION

- ❖ He was the **architect of India's Green Revolution**.
- ❖ Swaminathan worked on **enhancing crop varieties, particularly rice and wheat** and pioneered the development of **semi-dwarf wheat varieties to reduce lodging and boost yields**.
- ❖ Collaborated with **Norman Borlaug to develop high-yielding dwarf wheat varieties** suitable for Indian conditions.
- ❖ **Components of Green Revolution:** Use of High-Yielding Variety (HYV) seeds, Application of fertilizers, Mechanization of farming, Price Incentives.
- ❖ He also **recognized the challenges of the Green Revolution**, including the displacement of local crop varieties, soil fertility conservation issues, and indiscriminate pesticide use.

AWARDS

- ❖ **Ramon Magsaysay Award** in 1971, **UNEP Sasakawa Environment Prize** in 1994, **UNESCO Gandhi Gold Medal** in 1999.
- ❖ Swaminathan was awarded **the first World Food Prize Laureate in 1987** for his contributions to India's wheat and rice production.
- ❖ He received the **Padma Bhushan and Padma Vibhushan**.

15. AWARDS AND HONOURS

15.1 R. RAVI KANNAN WINS 2023 RAMON MAGSAYSAY AWARD

- ❖ Surgical oncologist **R. Ravi Kannan, Director of the Cachar Cancer Hospital and Research Centre (CCHRC) in Assam**, is one of the four winners of the **2023 Ramon Magsaysay Award** and the **only one from India**.
- ❖ He is **credited with revolutionising cancer treatment in Assam through people-centric and pro-poor healthcare**.
- ❖ Under Dr. Kannan's leadership, the **CCHRC became a full-fledged comprehensive cancer hospital and research centre**.
- ❖ Dr Kannan was **also honoured with the Padma Shri**, India's fourth highest civilian award, for his **contribution towards the health sector in 2020**.

Other 3 winners are-

Korvi Rakshand from **Bangladesh**
Eugenio Lemos from **Timor-Leste**
Miriam Coronel-Ferrer from **Philippines**.

ABOUT RAMON MAGSAYSAY AWARD

- ❖ It is often called the **"Nobel Prize of Asia."**
- ❖ It was **established in 1957** and named after **Ramon Magasaysay, the third president (1953-57) of Philippines**.
- ❖ **Ramon Magsaysay Award Foundation (RMAF)** honours individuals or organizations in Asia every year for **social contribution activities**.
- ❖ Awardees are presented with a **certificate, a medallion** with an embossed image of Ramon Magsaysay and **cash prize**.

15.2 SANGEET NATAK AKADEMI AWARDS

- ❖ The Sangeet Natak Akademi recently announced **special one-time awards**, commemorating **75 years of India's independence to 84 artists**, who are **above the age of 75 years** and **haven't been accorded any national honour in their career so far**.

- ❖ The 'Amrit' awards **would be given away by Vice-President.**
- ❖ **Sangeet Natak Akademi Amrit Awards** is a national honour bestowed by the country on performing artists, teachers and scholars in the field of performing arts.
- ❖ The recipients have been selected by the Akademi's General Council, consisting of distinguished musicians, dancers, theatre artists and scholars in these disciplines as well as nominees of the Centre, States and Union Territories.
- ❖ The honour carries a **purse money of Rs. 1,00,000/- (Rupees one lakh)** besides a Tamrapatra and Angavastram.
- ❖ The awards have been given in various categories like Hindustani and Carnatic vocal and instrumental, folk, classical dance forms like Bharatnatyam and Kathak and playwriting and direction.

15.3 RASHTRIYA VIGYAN PURASKAR

- ❖ The government has introduced a new set of National Awards in the field of Science, Technology, and Innovation.
- ❖ Named the "**Rashtriya Vigyan Puraskar**" (RVP), these awards aim to recognize the remarkable contributions made by scientists, technologists, and innovators in various fields of science and technology.
- ❖ **Eligibility**
 - ✓ eligibility for these awards extends to scientists, technologists, and innovators working in government or private sector organizations, as well as individuals working independently.
 - ✓ The criteria for recognition include distinguished contributions in terms of path-breaking research, innovation, or discovery in any field of science, technology, or technology-led innovation.
 - ✓ People of Indian origin residing abroad are also eligible for these awards.
- ❖ The Rashtriya Vigyan Puraskar will be awarded across four categories.
 - ✓ The '**Vigyan Ratna**' award will honour lifetime achievements in any field of science and technology.
 - ✓ The '**Vigyan Shri**' award will acknowledge distinguished contributions in any field of science and technology.
 - ✓ The '**Vigyan Yuva-Shanti Swarup Bhatnagar**' award aims to recognize and encourage young scientists under the age of 45 who have made exceptional contributions in any field of science and technology.
 - ✓ Lastly, the '**Vigyan Team**' award will be given to a team of three or more scientists, researchers, or innovators who have made exceptional contributions in any field of science and technology.
- ❖ The awards will cover 13 domains, including Physics, Chemistry, Biological Sciences, Mathematics & Computer Science, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology & Innovation, Atomic Energy, Space Science and Technology, and others.
- ❖ The **Rashtriya Vigyan Puraskar Committee (RVPC)**, headed by the Principal Scientific Adviser to the Government of India and comprising Secretaries of Science Departments, members of Science and Engineering Academies, and distinguished scientists and technologists from various fields of science and technology, will review all nominations.
- ❖ The awards will be announced on May 11th (National Technology Day) and conferred on August 23rd (National Space Day).

15.4 NORMAN E BORLAUG AWARD FOR FIELD RESEARCH AND APPLICATION

- ❖ **Dr Swati Nayak**, an Indian scientist at the International Rice Research Institute (IRRI), has been named the 2023 recipient of the prestigious Norman E Borlaug Award for Field Research and Application.
 - ✓ Ms Nayak will formally receive the Borlaug Field Award during a ceremony at the 2023 Norman E. Borlaug International Dialogue October 24-26 in Des Moines, Iowa.
- ❖ She is recognized for her innovative approach to engaging smallholder farmers in demand-driven rice seed systems and adoption of climate-resilient and nutritious rice varieties.
- ❖ The award is given to exceptional scientists under 40 and someone who works in the field of food and nutrition security, hunger eradication in memory of the Nobel awardee and Green Revolution's chief architect Dr Norman Borlaug.
- ❖ It carries a prize of \$10,000 and is endowed by the Rockefeller Foundation

15.5 53RD DADASAHEB PHALKE LIFETIME ACHIEVEMENT AWARD

- ❖ Legendary actress **Ms Waheeda Rehman** will be honoured with **Dadasaheb Phalke Lifetime Achievement Award for the year 2021.**
- ❖ The award will be presented during the **69th National Film awards ceremony.**
- ❖ The **following members** were part of the Dadasaheb Phalke Award Selection Committee: **Ms Asha Parekh, Mr Chiranjeevi, Mr Paresh Rawal, Mr Prosenjit Chatterjee** and **Mr Shekhar Kapur.**

ABOUT THE AWARD

- ❖ The Government of India **introduced the Dadasaheb Phalke Award in 1969.**
- ❖ It is **India's highest award in the field of cinema presented annually at the National Film Awards ceremony by the Directorate of Film Festivals.**
- ❖ It is presented by the **President of India.**
- ❖ **Actress Devika Rani** was the **first recipient.**
- ❖ The award **comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of ₹10,00,000.**

The Father of Indian Cinema, **Dadasaheb Phalke**, made the **first Indian feature film Raja Harishchandra** in the year **1913.**

ABOUT THE ACTRESS

- ❖ Waheeda Rehman has **worked in more than 90 films**, in a career spanning over five decades and has received significant critical acclaim.
- ❖ She won the **Filmfare Best Actress Award** for her roles in **Guide (1965) and Neel Kamal (1968).**
- ❖ She won **National Film Award** for her role as a **clanswoman in the film Reshma and Shera.**
- ❖ She was honoured with **the Padma Shri** by Government of India in 1972, later receiving the **Padma Bhushan in 2011.**

16. SPORTS

16.1 MAX VERSTAPPEN WINS ITALIAN GRAND PRIX 2023

- ❖ **Max Verstappen of Red Bull** has won the **Italian Grand Prix.**
- ❖ With this, he has **set a new record for the most consecutive wins in Formula 1 history with 10.**
- ❖ **Sergio Perez** came in second and **Carlos Sainz of Ferrari** finished third.

16.2 DANIELLE MCGAHEY- 1ST TRANSGENDER CRICKETER

- ❖ Danielle McGahey, 29, is **set to become the first transgender woman player to play in international cricket.**
- ❖ She has **fulfilled the eligibility criteria for male-to-female (MTF) transition, per ICC.**
- ❖ She was **named in Canada's squad for the Women's T20 Americas Qualifier, the pathway tournament to the T20 World Cup 2024.**
 - ✓ **Originally she is from Australia.**

16.3 U.S. OPEN 2023

- ❖ **Novak Djokovic** defeated Daniil Medvedev to win his **fourth U.S. Open** and a record-equalling **24th Grand Slam singles title**, avenging his loss to the Russian in the final two years ago.
- ❖ The Serbian is the first man to win three Grand Slam events in the same season four times, crowning his impending return to world number one in the most fitting of ways inside Arthur Ashe Stadium.

Event	Winners
Men's Singles	Novak Djokovic
Women's Singles	Coco Gauff

Men's Doubles	Rajeev Ram & Joe Salisbury
Women's Doubles	Gabriela Dabrowski & Erin Routliffe

16.4 SHANTI SWARUP BHATNAGAR AWARD

- ❖ The country's top annual science award, the prestigious Shanti Swarup Bhatnagar Award, was announced after a gap of two years. This year, 12 scientists were selected for the award in seven different scientific categories.

WINNERS:

Name	Affiliation	Field of Study
Ashwani Kumar	CSIR-Institute of Microbial Technology	Biological Sciences
Maddika Subba Reddy	Centre for DNA Fingerprinting Diagnostics, Hyderabad	Biological Sciences
Akkattu Biju	Indian Institute of Science, Bengaluru	Chemical Sciences
Debabrata Maiti	Indian Institute of Technology, Bombay	Chemical Sciences
Vimal Mishra	Indian Institute of Technology, Gandhinagar	Earth and Atmospheric Sciences
Dipti Ranjan Sahoo	Indian Institute of Technology, Delhi	Engineering Sciences
Rajnish Kumar	Indian Institute of Technology, Madras	Engineering Sciences
Apoorva Khare	Indian Institute of Science and	Mathematical Science
Neeraj Kayal	Microsoft Research Lab India	Mathematical Science
Dipyaman Ganguly	Indian Institute of Chemical Biology, Kolkata	Medical Sciences
Anindya Das	Indian Institute of Science, Bengaluru	Physical Sciences
Basudeb Dasgupta	Tata Institute of Fundamental Research	Physical Sciences

ABOUT SHANTI SWARUP BHATNAGAR AWARDS

- ❖ The Shanti Swarup Bhatnagar Prize for Science and Technology is a prestigious award that recognizes the outstanding achievements of young Indian scientists and engineers.
- ❖ **The award is named after Dr. (Sir) Shanti Swarup Bhatnagar, the Founder-Director of the Council of Scientific & Industrial Research (CSIR),** India's largest research and development organization.
- ❖ It aims to honour the research and developmental work of Indian citizens in various fields of science and technology that have the potential for social and economic benefits.
- ❖ Shanti Swarup Bhatnagar Award are awarded in **seven scientific disciplines, including physics, biology, engineering, mathematics, medicine, chemistry, and earth sciences.**
- ❖ It is open to any Indian citizen under the **age of 45 years** who is engaged in research in India. Overseas Citizens of India (OCI) and Persons of Indian Origin (PIO) working in India are also eligible.
- ❖ **A member of the CSIR governing body, a Vice-Chancellor of a university** or an institute of national importance, a dean of a science faculty or a previous Bhatnagar Awardee can propose names of candidates for the award.
- ❖ The work being considered for the award should have been done in India during the five years preceding the year of the award.

- ❖ The award consists of a citation, a plaque, and a cash prize of **Rs. 5 lakhs**. In addition, the awardees receive a **monthly honorarium of Rs. 15,000** until they reach the age of 65.

16.5 GERMANY BEAT SERBIA TO WIN BASKETBALL WORLD CUP FOR FIRST TIME

- ❖ **Germany** won their first-ever men's FIBA Basketball World Cup 2023 title by beating **Serbia** in Manila.
- ❖ The 19th edition of FIBA's flagship event, co-hosted by the **Philippines, Indonesia, and Japan**.
- ❖ **Germany** became the first team to win a **FIBA World Cup** crown in their final debut since **Spain in 2006**.

16.6 CARLOS SAINZ WINS SINGAPORE GRAND PRIX

- ❖ Ferrari's **Carlos Sainz** has won the **Singapore Grand Prix**.
- ❖ He ended the Formula 1 leader **Max Verstappen's** record run of **10 wins in a row**.
- ❖ **McLaren's Lando Norris** finished a close second and **Mercedes' Lewis Hamilton** took third place.

16.7 ESPORTS DEBUT AT ASIAN GAMES

- ❖ **Esports**, which featured as a **demonstration sport** at the **2018 Asian Games in Jakarta**, made its official debut as a **medal sport** at **Hangzhou 2023**.
- ❖ A total of **seven esports medal events** –
 - ✓ **FC Online 4,**
 - ✓ **Dota 2,**
 - ✓ **League of Legends,**
 - ✓ **Street Fighter V: Champion Edition,**
 - ✓ **Arena of Valor Asian Games Version,**
 - ✓ **Dream Three Kingdoms 2** and
 - ✓ **Peace Elite Asian Games Version (also known as PUBG Mobile)** - are scheduled at Hangzhou.
 - India is a part of the **first four**.

Breaking (Breakdance) are also made **inaugural appearances** as recognized and official sporting event in **Hangzhou 2023**.

ABOUT ASIAN GAMES

- ❖ The event is held **once in every four years**.
- ❖ They are **organized by the Olympic Council of Asia (OCA)** since **1982**.
- ❖ **Symbol-** Rising sun with interlocking rings.
- ❖ It is **recognised by International Olympic Committee** and is **second largest multi-sport event after Olympics**.
- ❖ India is **one of the founder member of Asian Games Federation** and also the **host of the first Asian Games in 1951**.
 - ✓ **9th edition of the Asian Games** was also held in **New Delhi in 1982**.

16.8 SHOOTERS SHINE AT ASIAN GAMES

- ❖ Indian shooter **Sift Kaur Samra** clinched **gold in the women's 50m rifle 3 position event**.
- ❖ Samra also achieved a **world and Games record score of 469.6 points**.
- ❖ Also, the **Indian trio of Manu Bhaker, Esha Singh, and Rhythm Sangwan** secured the **gold medal in the women's 25m pistol team event** at the **Asian Games held in Hangzhou, China**.

17. PLACES IN NEWS

17.1 TIMOR-LESTE

- ❖ At the **ASEAN-India summit**, the prime minister announced the decision to establish an Indian Embassy in **Dili, Timor-Leste**.
- ❖ **Timor Leste** joined the Association of Southeast Asian Nations (ASEAN) in 2022 as an Observer, before becoming its full member.

ASEAN

- ❖ **ASEAN** is considered one of the most influential groupings in the region, and India and several other countries including the US, China, Japan, and Australia are its dialogue partners.
- ❖ **ASEAN** agrees to admit Timor- Leste as its 11th member
- ❖ Timor- Leste applied for membership of the ASEAN in 2011.
- ❖ It was officially recognised as an independent country by the United Nations in 2022, making it **Asia's youngest country**.

17.2 KALAINAR MAGALIR URIMAI THOGAI THITTAM SCHEME

- ❖ **Tamil Nadu government** has launched social welfare scheme “**Kalaignar Magalir Urimai Thogai Thittam**”.
- ❖ Under the scheme, Tamil Nadu government will provide **monthly assistance of Rs 1,000 to more than 1.06 crore** female family heads through **Kalaignar Magalir Urimai Thogai Thittam**.
- ❖ Beneficiaries will receive financial assistance through direct bank transfers and will be provided with **ATM cards** for easy access.
- ❖ The government emphasizes on effective implementation and will use SMS notifications to communicate with beneficiaries.

17.3 LOUGH NEAGH LAKE

- ❖ An environmental scientist has warned that **it could take 20 years to stop outbreaks of toxic blue-green algae** in **Lough Neagh**.
- ❖ The lake has been **heavily polluted with cyanobacteria**, which is poisonous for humans and animals, since May.

ABOUT LOUGH NEAGH

- ❖ It is the **largest freshwater lake in Ireland or the UK**.
- ❖ **It has an area of about 392 sq. km.**
- ❖ It supplies **water to 40% of Northern Ireland's people**.
- ❖ Lough Neagh was the **first Ramsar Site declared in Northern Ireland in 1976**.

18. SOCIAL ISSUES, HEALTH, EDUCATION

18.1 THE GLOBAL FUND

- ❖ The **Global Fund** announced a deal recently with **generic pharmaceutical manufacturers** to **significantly slash the price of a cutting-edge HIV drug**.
- ❖ The agreement **would make it possible to provide the advanced pill known as TLD for under \$45 per person per year**.

ABOUT THE DRUG TLD

- ❖ The **three-in-one pill** bands together the drugs **tenofovir disoproxil fumarate, lamivudine and dolutegravir**.
- ❖ WHO has **recommended it as the preferred first-line HIV treatment for adults and adolescents** since it **rapidly suppresses the virus that causes AIDS, has fewer side effects and is easy to take**.

ABOUT THE GLOBAL FUND

- ❖ It is a **partnership set up in 2002 to battle AIDS, tuberculosis and malaria**.
- ❖ **HQ- Geneva, Switzerland**
- ❖ The Global Fund raises funds on a **three-year cycle, bringing longer term predictability in the fight against AIDS, TB and malaria**.
- ❖ It invests over **US\$4 billion per year to fight infectious diseases in 120 countries**.
- ❖ **India joined the Global Fund as a donor in 2006, and has contributed a total US\$76.5 million to date**.

18.2 NATIONAL NUTRITION WEEK

- ❖ National Nutrition Week is an **annual event in India** that takes place **from 1st to 7th September**.
- ❖ It is **commemorated to raise public awareness of the importance of nutrition**.
- ❖ In **1982**, National Nutrition Week was **first celebrated in India**.
- ❖ The **theme of Nutrition Month 2023, according to UNICEF, is “Healthy Diet Going Affordable for All”**.
- ❖ In India, **September** is celebrated as the **National Nutrition Month or Rashtriya Poshan Maah**.

18.3 PAL FOR DIKSHA

- ❖ The **National eGovernance Division (NeGD)** under the **Ministry of Electronics and Information Technology (MeitY)** is set to **integrate Personalised Adaptive Learning (PAL) into its existing Digital Infrastructure for Knowledge Sharing (DIKSHA) platform**.
- ❖ PAL's **software-based approach will allow each student to have an individualised learning experience over the course of the curriculum based on their unique needs and abilities**.

ABOUT DIKSHA

- ❖ **DIKSHA comes under the Ministry of Education**.
- ❖ It provides **e-content for schools via an online portal and a mobile application**.
- ❖ It **also has embedded assistive technologies for learners with visual or hearing impairments**.
- ❖ However, **DIKSHA is a static content repository**.
- ❖ DIKSHA features **digitised National Council of Educational Research and Training (NCERT) textbooks used national and State Boards**.
- ❖ Apart from this, **DIKSHA hosts 2.43 lakh contributions by 11,624 academicians by way of teaching videos, explainers, and practice questions**.
- ❖ The **National Council of Educational Research and Training (NCERT)** has sought the **MeitY's expertise in facilitating PAL for DIKSHA**.
 - ✓ In some States, **private players are already administering PAL, which works on AI or Artificial Intelligence, but budget constraints have been an obstacle**.

18.4 AAROGYA MAÎTRI CUBE

- ❖ India has built the **world's first disaster hospital- Aarogya Maitri Cube**
- ❖ It **can be airlifted, packed in 72 cubes.**
- ❖ India has built the product **under project BHISHM – Bharat Health Initiative for Sahyog Hita and Maitri –** which includes three frames, each accommodating 12 mini-cubes.
- ❖ These cubes **can handle several severe injuries including 40 bullet injuries, 25 major bleeds, 25 major burns, around 10 head injuries, long limb fractures, spinal injuries, chest injuries and spinal fractures.**
- ❖ Apart from the **refrigerator**, the cubes contain a **portable ventilator, ultrasound machine, digital imaging radiography machine, defibrillator, high-mounted OT lights, stretchers, modern surgical devices, and portable laboratory among other high-end equipment.**
 - ✓ The product can also be tailored to meet specific needs.
- ❖ While India has **already donated two Aarogya Maitri Cubes to Myanmar as a goodwill gesture, one is being readied for donation to Sri Lanka.**
- ❖ **All equipment is rechargeable and the kit contains a portable generator, including a solar panel-based generator.**
- ❖ In times of crises and disasters, 'Aarogya Maitri' can **deliver swift medical aid to those in need, irrespective of their location.**
 - ✓ Its ability to be **quickly deployed to remote and disaster-stricken regions** makes it a **game-changer in disaster relief efforts.**

18.5 MALAVIYA MISSION - TEACHERS TRAINING PROGRAMME

- ❖ The **Malaviya Mission - Teachers Training Programme** was launched by the **University Grants Commission** at Kaushal Bhawan, New Delhi recently.
- ❖ The **Portal of the Programme** was also launched and its **information brochure** was released.
- ❖ **Human Resource Development Centres (HRDCs)** have also been renamed as **Madan Mohan Malaviya Teachers' Training Centre.**

ABOUT THE MALAVIYA MISSION - TEACHERS TRAINING PROGRAMME

- ❖ Organised by the **University Grants Commission**, in association with the **Ministry of Education**, the MMTTP **aims to provide tailored training programmes for teachers.**
- ❖ This **programme will work for the capacity building of faculty members in higher educational institutions.**
- ❖ Programme will **ensure continuous professional development and help in building capacities of 15 lakh teachers of HEIs** through **111 Malaviya Mission centres across India** in a time-bound manner.
- ❖ **Capacity building** under the Malaviya Mission **will be mapped to the credit framework** to ensure **career progression pathways for educators.**

18.6 JAPANESE ENCEPHALITIS

- ❖ The **efficacy of immunization vaccination** for Japanese Encephalitis is **around 86.7%**, according to a new **study by the ICMR-National Institute of Virology, Pune.**
- ❖ The government uses **Chinese-made live-attenuated SA 14-14-2 vaccines**

ABOUT JAPANESE ENCEPHALITIS

- ❖ In **1871**, the **first case of Japanese Encephalitis was recorded in Japan.**
- ❖ **Japanese encephalitis is the main cause of acute encephalitis syndrome** in South Asia, **including India.**
- ❖ It is **caused by a flavivirus** that belongs to the **same genus as dengue, yellow fever and West Nile viruses.**
- ❖ It is **spread by Culex mosquitoes.**
- ❖ There are **68,000 cases globally per year.**
- ❖ Initial symptoms include **fever, chills, headache, fatigue, nausea and vomiting** which can progress to **inflammation of the brain (encephalitis)** accompanied by **seizures, coma and paralysis.**
- ❖ In India, **Japanese encephalitis cases are reported to be high in the north-central and north-eastern regions, medium to high endemic in the south and low in the north-west region.**
 - ✓ **Odisha, Jharkhand, Chhattisgarh, Karnataka and Andhra Pradesh** are the **high-burden states.**
- ❖ The disease **does not transmit from one person to another.**

- ❖ There is **no cure for the disease**.

18.7 VARICELLA-ZOSTER VIRUS

- ❖ **Indian Council of Medical Research-National Institute of Virology scientists, have for the first time in the country, found the presence of Clade 9 variant of varicella zoster virus (VZV).**
- ❖ So far the **clade 9** is the **most common strain in circulation in countries such as Germany, UK and USA.**

ABOUT VARICELLA ZOSTER VIRUS (VZV)

- ❖ According to the **World Health Organisation, Varicella-zoster is a herpes virus that causes chickenpox, a common childhood illness.**
 - ✓ **Herpes zoster (HZ), commonly known as shingles, is caused by the reactivation of the varicella zoster virus (VZV).**

ABOUT CHICKENPOX

- ❖ Chickenpox is also known as **varicella**.
- ❖ It is an **infectious, viral disease** characterized by **itchy red blisters that appear all over the body**.
- ❖ It is a **highly contagious infectious disease, mainly caused by the varicella-zoster virus, which spreads in a similar way to cold and other flu-**
 - ✓ **Coming in contact** with someone who has chickenpox.
 - ✓ **Breathing air from an infected person who sneezes or coughs.**
 - ✓ Coming in contact with **fluids from an infected child's eyes, nose or mouth.**
- ❖ The **incubation period is 10 to 21 days.**

18.8 NIPAH VIRUS

- ❖ The **Kerala health department** issued a health alert in Kozhikode after two people who died due to **"unnatural"** deaths in the district were suspected to have been infected with the **Nipah virus (NiV).**

ABOUT NIPAH VIRUS (NIV)

- ❖ **Nipah virus** infection is a **zoonotic illness** that is transmitted from animals to humans.
- ❖ The organism which causes Nipah Virus encephalitis is an **RNA or Ribonucleic acid virus** of the family **Paramyxoviridae, genus Henipavirus**, and is closely related to Hendra virus.
- ❖ The case fatality rate is estimated at **40% to 75%**. This rate can vary by outbreak depending on local capabilities for **epidemiological surveillance and clinical management**.
- ❖ The virus can also cause severe disease in animals such as **pigs**, resulting in significant economic losses for farmers.

HISTORY

- ❖ **Nipah virus** was first recognized in **1999** during an outbreak among pig farmers in Malaysia when pigs in Malaysian farms came in contact with the bats who had lost their habitats due to deforestation.
- ❖ It was also recognized in Bangladesh in **2001**, and nearly annual outbreaks have occurred in that country since.
- ❖ The disease has also been identified periodically in eastern India.
- ❖ In subsequent outbreaks in **Bangladesh and India**, consumption of fruits or fruit products (such as raw date palm juice) contaminated with urine or saliva from infected fruit bats was the most likely source of infection.
- ❖ **Transmission**
- ❖ The disease spreads through **fruit bats or 'flying foxes,'** of the **genus Pteropus**, who are natural reservoir hosts of the **Nipah and Hendra viruses**.
- ❖ The virus is present in bat urine and potentially, **bat faeces, saliva, and birthing fluids**.
- ❖ The virus is transmitted to people from animals and can also be passed on through contaminated food or directly from person to person.
- ❖ **Human-to-human transmission** of the Nipah virus has also been reported among family and caregivers of infected patients.

18.9 SCRUB TYPHUS

- ❖ **Scrub typhus, an infectious disease, outbreak in Western Odisha.**

ABOUT SCRUB TYPHUS

- ❖ It is caused by a zoonotic **rickettsial bacterium called Orientia tsutsugamushi**, which is transmitted to humans through the bites of infected chiggers (larval mites).
- ❖ Mites carrying the disease are generally found in the **bush, jungle and paddy areas**, so the disease is also called jungle or bush typhus.
- ❖ The symptoms of scrub typhus commonly include **fever, headache, body ache and sometimes a rash.**

ROLE OF CLIMATE IN SPREAD OF SCRUB TYPHUS

- ❖ **The chiggers** that transmit the disease generally live in **low temperature and high humidity conditions.**
- ❖ **A 2022 study** looked into clustering of **scrub typhus** cases in **South India**, found temperature, humidity and rainfall had a major role in the incidence of **scrub typhus.**
- ❖ **A 2017 study** looking into scrub typhus cases in **China** also found that a **1°C increase** in mean temperature was associated with a **3.8% increase** in the odds of scrub typhus cases during the same week.

DIAGNOSIS AND TESTING:

- ❖ Laboratory testing like **Elisa tests**, which is available almost in all district public health laboratories.

PREVENTION AND TREATMENT:

- ❖ **No vaccine** is available to prevent **scrub typhus.**
- ❖ It is suggested the risk of contracting the infection by avoiding contact with infected chiggers.
- ❖ If someone gets infected by scrub typhus then it should be treated with the **antibiotic doxycycline.**

18.10 SICKLE CELL PATIENTS

- ❖ The Government is planning for permanent disability certificates for **Sickle-Cell Disease (SCD) patients** for **age 5+**, now stalled for **three years.**
- ❖ The Union government has been publicising its campaign to **“eradicate” Sickle Cell Disease (SCD) in India** by **2047.**

BACKGROUND

- ❖ SCD was included in the list of disabilities under the **Rights of Persons with Disabilities Act, 2016**, patients could only avail disability certificates with one-year validity.
- ❖ Later on, the DEPwD eventually increased the validity of disability certificates for **SCD patients to three years, requiring a minimum of 25% disability.**

ABOUT DISABILITY CERTIFICATE

- ❖ **Disability certificates in India** are official documents issued to individuals with disabilities to provide legal recognition of their disability status.
- ❖ These certificates are essential for accessing various government benefits, reservations, and support services aimed at improving the lives of **people with disabilities.**
- ❖ **Disability certificates** are typically issued by medical boards or committees appointed by the state or central government.
- ❖ These boards consist of medical professionals who assess and certify the extent and type of disability.
- ❖ **Disability certificates** are typically valid for a specified period, after which individuals may need to undergo a reassessment to determine if there have been any changes in their disability status.
- ❖ They are issued in compliance with the **Rights of Persons with Disabilities Act, 2016**, which provides a legal framework for safeguarding the rights and interests of people with disabilities in India.

SIGNIFICANCE:

- ❖ **Disability certificates** play a crucial role in accessing various government schemes and benefits, including reservation in **education and employment, financial assistance, transport concessions, and assistive devices.**

ABOUT SICKLE CELL DISEASE (SCD)

- ❖ SCD is a chronic single gene disorder causing a debilitating systemic syndrome characterized by chronic anemia, acute painful episodes, organ infarction and chronic organ damage and by a significant reduction in life expectancy.
- ❖ **Symptoms:** 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.

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**.

NATIONAL SICKLE CELL ANAEMIA ELIMINATION MISSION:

- ❖ **The National Sickle Cell Anaemia Elimination Mission was announced in the Union Budget 2023-2024.**
- ❖ It will be implemented in **278 districts of 17 states in the country.**

18.11 MONOCLONAL ANTIBODIES FOR NIPAH

- ❖ **India** has reached out to **Australia** seeking to **restock monoclonal antibodies doses to combat the Nipah virus and is expecting 20 more doses soon**, Indian Council of Medical Research (ICMR) reported.
- ❖ The monoclonal antibody has **passed the phase-one trial and has been administered to 14 persons globally till now.**
- ❖ The **mortality among the infected is very high in Nipah — between 40% and 70% —** compared to the mortality in COVID, which was 2% to 3%.

Antibodies are **proteins produced naturally** by the immune system that target a specific foreign object (antigen).

They are **called monoclonal Antibodies (mAbs)** when **they are produced by clones derived from a single parent cell.**

Monoclonal antibodies are used for **diagnosis, disease treatment and research.**

ABOUT THE ANTIBODIES

- ❖ **Developed in the United States**, the **antibody was shared with an Australian university as part of a tech-transfer initiative.**
- ❖ **India got some doses of monoclonal antibodies from Australia in 2018.**
- ❖ Currently, **doses are available for only 10 patients.**
- ❖ **No one in India has so far administered the antibody.**
- ❖ It has to be **administered in the early stage of the infection.**
- ❖ There is **no authorised treatment for Nipah.**

USE IN AUSTRALIA

- ❖ The **monoclonal antibody is used in Australia for the Hendra virus**, which is a **bat-borne virus** that is associated with a **highly fatal infection in horses and humans.**
- ❖ **Numerous disease outbreaks in Australia among horses have been caused by Hendra Virus.**
- ❖ Two doses of the antibody **have to be given per person.**

18.12 BRUCELLA CANIS

- ❖ **Three British citizens have been infected with Brucella canis.**

ABOUT BRUCELLA CANIS

- ❖ It is an **infectious and highly contagious disease among dogs** caused by the **bacteria Brucella canis.**
- ❖ It is an **incurable dog disease previously unseen in UK canines.**
- ❖ This **bacterial infection can cause infertility, mobility issues, and discomfort in affected dogs.**
- ❖ Transmission:

- ✓ **Dogs typically contract *Brucella canis* through contact with infected body fluids, such as urine, vaginal discharge, or reproductive fluids, from other infected dogs.**
- ✓ **It can be transmitted to humans through contact with infected bodily fluids.**
- ❖ **For humans, effective treatment is available through an extended regimen of antibiotics.**

18.13 NATIONAL MEDICAL COMMISSION GETS WFME RECOGNITION

- ❖ **The National Medical Commission (NMC) of India has been awarded the World Federation for Medical Education (WFME) Recognition status for a tenure of 10 years.**
 - ✓ **The National Medical Commission, NMC, is India's premier regulatory body overseeing medical education and practice.**
- ❖ **This will enable Indian medical graduates to pursue postgraduate training and practice in other countries that require WFME recognition, such as the United States, Canada, Australia, and New Zealand.**
- ❖ **After this development, all 706 existing medical colleges in India have become WFME accredited.**
- ❖ **Moreover, the new medical colleges that will be set up in the coming 10 years will also become WFME accredited.**

ABOUT WORLD FEDERATION FOR MEDICAL EDUCATION

- ❖ **The World Federation for Medical Education (WFME) is a global organisation dedicated to enhancing the quality of medical education worldwide.**
- ❖ **Established in 1972 in Copenhagen.**
- ❖ **Headquarters- Ferney-Voltaire, France.**
- ❖ **The organisation is currently registered in the UK and France.**

18.14 AYUSHMAN BHARAT PM-JAY AND ABDM

- ❖ **The National Health Authority (NHA), Ministry of Health and Family Welfare (MoHFW) organized 'Arogya Manthan' to celebrate five years of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) and two years of Ayushman Bharat Digital Mission (ABDM).**
- ❖ **Both the flagship healthcare schemes aim to provide accessible, available, affordable and scalable healthcare to achieve the vision of Universal Health Coverage (UHC) in India.**

ABOUT AYUSHMAN BHARAT PM-JAY

- ❖ **Ayushman Bharat PM-JAY was launched on 23rd September 2018.**
- ❖ **It is the world's largest health insurance scheme.**
- ❖ **It offers a sum insured of Rs.5 lakh per family for secondary care and tertiary care across public and private empanelled hospitals.**
 - ✓ **There is no restriction on the family size, age or gender.**
- ❖ **The funding for the scheme is shared –**
 - ✓ **60:40 for all states and UTs with their own legislature,**
 - ✓ **90:10 in Northeast states and Jammu and Kashmir, Himachal and Uttarakhand and**
 - ✓ **100% Central funding for UTs without legislature.**
- ❖ **Outcome**
 - ✓ **With 5.5 Cr free hospitalizations worth Rs. 69,000 Cr, scheme has not only ensured good health for crores of poor and downtrodden families but has also protected their families from catastrophic healthcare expenditure.**

ABOUT AYUSHMAN BHARAT DIGITAL MISSION (ABDM)

- ❖ **The ABDM, launched on 27th September 2021, is a very ambitious scheme of government aimed at creating a digital highway connecting different stakeholders of healthcare ecosystems.**
- ❖ **This will be achieved by creating a Digital Health ID for every citizen. This ID will then be linked to their health records. This will allow for seamless sharing of health records across different healthcare providers.**
- ❖ **The National Health Authority (NHA) is the implementing agency of ABDM.**
- ❖ **Outcome**
 - ✓ **Over last 2 years more than 45 Cr Ayushman Bharat Health Account (ABHA) have been created.**

- ✓ Further, more than 30 Cr health records have been linked to these ABHA accounts.
- ❖ Scheme aims at leveraging digital technologies to strengthen healthcare delivery.

19. MISCELLANEOUS

19.1 FIRST VILLAGE OF INDIA

- ❖ Akashvani Delhi celebrated the success of G-20 Summit held recently in New Delhi under the Presidency of Bharat and 'Meri Maati Mera Desh' campaign in country's first village Mana, District Chamoli, Uttarakhand.
- ❖ The village is located on the banks of the River Saraswati, just 3 km away from the town of Badrinath.
- ❖ People living here belong to Bhotia community.
- ❖ The place is related to the time of Mahabharata.

19.2 OPERATION POLO

- ❖ On 13th September, 1948, India's military action known as "Operation Polo" was launched to integrate the princely state of Hyderabad, a significant event in Indian history.
- ❖ The Nizam of Hyderabad, Mir Osman Ali Shah, had hesitated to join India or Pakistan after Independence, capitalizing on the Indian government's preoccupation with the Kashmir conflict.
- ❖ A standstill agreement signed in November 1947 maintained the status quo between Hyderabad and India for a year, allowing the Nizam to continue governing independently.
- ❖ However, escalating tensions, cross-border raids, and intentions to establish an independent state, prompted India to act.
- ❖ The operation saw well-planned military thrusts from multiple directions, ultimately leading to the surrender of the Hyderabad state forces.
- ❖ This pivotal campaign, carried out under the watchful eye of Sardar Vallabhbhai Patel, culminated in a ceasefire declaration on 17th September, 1948 effectively placing Hyderabad under Indian control by 18th September, 1948.

20. HIMACHAL NEWS

20.1 APPROVAL GRANTED TO CHAMBA-CHOWARI TUNNEL DPR

- ❖ The Himachal Government has accorded approval to the detailed project report (DPR) of the proposed Chamba-Chowari tunnel beneath Jot Pass.
- ❖ The Chamba-Chowari tunnel would provide a better opportunity to the Aspirational Chamba district and give it much-needed fillip in terms of development activities besides empowering people economically.

ABOUT JOT PASS

- ❖ Jot Pass stands at a height of 2880 meters above the sea level.
- ❖ Jot Pass overlooks the Chuwadi Valley and it is 23 kilometers away from the top of the Pass.
- ❖ Jot is one of the highest altitude tourist destinations in Chamba and is located on the Pathankot-Nurpur-Chowari-Chamba stretch.

20.2 SCRUB TYPHUS IN HP

- ❖ As many as 732 persons tested positive for scrub typhus while five deaths due to disease have been reported in Himachal Pradesh so far this year.

ABOUT SCRUB TYPHUS

- ❖ Scrub typhus is a **seasonal zoonotic (animal borne disease)**.
- ❖ It is caused by a bacteria- **Orientia tsutsugamushi**.
- ❖ It **spreads through bites of infected chiggers (flea larval mites)**.
- ❖ The **most common symptoms** of scrub typhus are **fever, headache, body aches and sometimes rash**.
- ❖ Being **curable**, its **early detection can help cure the disease**.

20.3 STATE LAUNCHES INNOVATIVE SUSTAINABLE FOOD SYSTEMS PLATFORM IN COLLABORATIVE EFFORT

- ❖ In a significant stride towards bolstering sustainable agricultural practices and uplifting the livelihoods of natural farmers, the **state of Himachal Pradesh is rolling out a Sustainable Food System Platform (SusPNF)**.
- ❖ This collaborative **endeavour brings together the expertise of Dr. YS Parmar University of Horticulture and Forestry (UHF), Nauni, the State Agriculture Department, and Farmer Producer companies**.
- ❖ The SusPNF is set to become the **first of its kind in the country**.
- ❖ It is a **result of a Memorandum of Association** between the **University, the State Department of Agriculture's Prakritik Krishi Khushal Yojana (PK3Y), and the National Bank for Agriculture and Rural Development (NABARD)**.
- ❖ The **primary goal** of this collaboration is to **empower natural farmers and drive advancements in the agricultural sector, ultimately enhancing the quality of life for local communities**.

20.4 CHAMBA NGO SEEKS CHOPPER SERVICE TO MANIMAHESH

- ❖ The Chamba Welfare Association, a local NGO, has urged the CM to introduce **direct helicopter service from Chamba district to the Manimahesh shrine**.
- ❖ Currently a **helicopter service is available from Bharmour to Gaurikund helipad, 2-3 km below the sacred Manimahesh lake**.

ABOUT MANIMAHESH YATRA

- ❖ The **Manimahesh Lake** is situated **26 kilometers from Bharmour** in the **Budhil valley**, one of the chief **pilgrimage spots in Himachal Pradesh**.
- ❖ The lake is situated at an altitude of **13,000 feet at the foot of the Kailash peak (18,564 ft)**.
- ❖ Every year, on the **eighth day of the light half of the moon in the month of Bhadon**, a fair is held at this lake, which attracts thousands of pilgrims who assemble here to take a dip in the holy water.
- ❖ **Lord Shiva** is the **presiding deity of this fair / jatra**.
- ❖ He is **believed to reside in Kailash**.
- ❖ A **rock formation in the shape of a Shivaling on Kailash is considered to be the manifestation of Lord Shiva**.
- ❖ The **snowfield at the base of the mountain is called Shiva's Chagan by the local people**.

20.5 PARWANOO, KALA AMB GET TOP RANKS UNDER CLEAN AIR DRIVE

- ❖ The **industrial towns of Parwanoo and Kala Amb** have made it to the **top two ranks nationally** under the **National Clean Air Programme** among **category 3 states** having **less than 3 lakh population**.
- ❖ **Parwanoo received the top rank by scoring 193.6 points out of 200** while **Kala Amb scored 193 points**.

20.6 RENUKA DAM PROJECT

- ❖ The work on the construction of **Renuka Dam project** is likely to begin shortly. The state government, in a meeting with Secretary Water Resources, has sought the final design of the project and release of funds from the Centre to kick-start work on the ground.
- ❖ **Prime Minister Narendra Modi** had laid the foundation stone of the project in December, 2021.

ABOUT THE PROJECT

- ❖ **Renuka dam project** is water storage project on **Giri River in Sirmour district** of the state.
- ❖ The beneficiary states of the project are **Delhi, Haryana, UP, Rajasthan, Uttarakhand and Himachal**.
- ❖ The project will generate **40 MW** power during peak flow.

- ❖ As per the agreement, **90 per cent** of the of the **cost of irrigation or drinking water** component will be provided by the Central government, while the remaining **10 per cent** will be borne by the beneficiary states.

20.7 GOVT TO PROVIDE RENTED HOUSES TO DISASTER-HIT

- ❖ **The Himachal Pradesh** government has decided to provide rented accommodation to **disaster-hit people living in relief camps and pay the rent** for these accommodations.
- ❖ Over **13,000 houses** have been damaged fully or partially in the rain-related incidents since July.
- ❖ The CM said **Rs 10 crore** would be released for the repair of roads in the **Shimla municipal areas**.

20.8 HIMACHAL TO GIVE RS 5,000-10,000 PER MONTH TO FAMILIES SHELTERED IN RELIEF CAMPS

- ❖ The Government of Himachal Pradesh has announced that the Families sheltered in relief camps in rural and urban areas here in the state would be provided **Rs 5,000 to Rs 10,000 respectively as monthly rent**.
- ❖ The rent admissible shall be **Rs 5,000 for families seeking accommodation in rural areas and Rs 10,000 for those seeking it in urban areas** and will be paid in direct benefit transfer (DBT) mode to the eldest female member of the family.
- ❖ The scheme will be in force till **March 31, 2024**.

20.9 RS 2,500 CR TO BE SPENT ON TOURISM DEVELOPMENT

- ❖ **The Himachal Pradesh government** is making significant efforts to attract 5 crore tourists annually by focusing on adventure, religious, and natural tourism infrastructure.
- ❖ The government plans to spend **Rs 2,500 crore on tourism development with the assistance of the Asian Development Bank (ADB)**.
- ❖ A substantial portion of this amount, **Rs 1,300 crore**, has already been approved. Additionally, a budget provision of **Rs 400 crore** has been made for promoting tourism activities in the current financial year
- ❖ The state plans to introduce hi-tech buses for tourists, similar to those found in foreign countries, to offer comfortable and scenic transportation to tourist destinations.

20.10 SAIR FAIR

- ❖ **THE three-day state-level Sair fair** was inaugurated at Arki in Solan.
- ❖ During the festival **colourful cultural programs are organized** and stalls are also exhibited for **buying and selling of goods**.
- ❖ It is also **famous for Bull fight** and visitors can enjoy this spectacular event / fair.

20.11 YOUNGEST YOGA INSTRUCTOR

- ❖ As certified by **India's World Records**, **9-year-old Ojasvi Shekhawat** from Una, became the **youngest yoga instructor in the country**.
- ❖ Around **3 lakh people** around the globe have seen and followed her online yoga sessions.

20.12 LEGAL CULTIVATION OF CANNABIS

- ❖ The **committee constituted** by the government to look into the **contentious issue of legal cultivation of cannabis in Himachal for non-narcotic purpose** has recommended the go ahead to farming under stringent regulations.
- ❖ The **committee**, headed by **Revenue Minister Jagat Singh Negi**, submitted its report to CM, who tabled it in the Vidhan Sabha.
- ❖ Non-narcotic uses-
 - ✓ **Food, textiles, paper, construction material, furniture, cosmetics, biofuels, healthcare products**

Uttarakhand was the first state to legalize cannabis cultivation.

- ✓ Cannabidiol compounds effective in **treating cancer, epilepsy, chronic pain**
- ❖ Panel recommendations
 - ✓ **Amendments to the NDPS Act, 1985;**
 - ✓ **developing SOPs for cultivation; and**
 - ✓ **forming a state-level authority to function as single window system**
 - ✓ **Creation of seed banks and a fund for research, development**
 - ✓ **Specialised excise staff** for regulation, monitoring.

20.13 HIMACHAL PRADESH LOKAYUKTA (AMENDMENT) BILL 2023 PASSED

- ❖ The **Vidhan Sabha** today passed the **Himachal Pradesh Lokayukta (Amendment) Bill 2023** to enable the appointment of a judge of the High Court as Lokayukta.
- ❖ According to the Himachal Pradesh Lokayukta Act, earlier **only the HC chief justice was eligible for appointment to the post.**
- ❖ It is **noteworthy that the state government had made a provision in the law to make other HC judges eligible for appointment to the post of Lokayukta way back in 2021.**
 - ✓ **Section 7 of the law had to be amended for the same.**
- ❖ Going forward, in case a judge is appointed to the post of Lokayukta, they will be eligible to receive the **salary and allowances corresponding to the post.**

20.14 SIT FOR CRYPTO-CURRENCY FRAUDS

- ❖ Himachal Pradesh Government announced the **setting up of a special investigation team (SIT)** headed by a top police officer to **investigate the rising cases of cryptocurrency fraud in the state.**
- ❖ The SIT would be **headed by DIG (Northern Range) Abhishek Dullar.**
- ❖ **Fifty-six complaints have been received in cyber police stations over the last two years.**
 - ✓ Three **cyber police stations** had been **set up in Shimla, Mandi and Kangra** to check cryptocurrency crimes.

20.15 IIT MANDI RESEARCHERS INVENT VACCINE AGAINST PORK TAPEWORM

- ❖ Researchers at the **Indian Institute of Technology Mandi**, led by Dr. Amit Prasad, Associate Professor at the School of Biosciences and Bioengineering, have achieved a **significant milestone in the fight against the pork tapeworm (T. solium)** by pioneering an **innovative protein-based vaccine.**
- ❖ Collaborating with scientists from Dayanand Medical College and Hospital in Punjab and the CSIR-Institute for Himalayan Bioresource Technology in Himachal Pradesh, the team has introduced a faster, more effective approach to vaccine development for challenging infectious diseases.
- ❖ This tapeworm is **notorious for causing both intestinal infections and severe brain infections leading to seizures.**
- ❖ The World Health Organization (WHO) has long recognized the **pork tapeworm** as a **major contributor to foodborne deaths**, resulting in **substantial disability-adjusted life-year losses.**
- ❖ It accounts for a **staggering 30% of epilepsy cases in developing nations, soaring to 45%-50% in regions with poor sanitation and free-roaming pigs.**
 - ✓ In North India, the prevalence of brain infection stands **at an alarming 48.3%.**
- ❖ In response, the **WHO's "2030 Roadmap of Priority Neglected Tropical Diseases"** is dedicated to **eradicating T. solium and related infections affecting 1.5 billion people worldwide.**

20.16 DALAI LAMA OPENS COLLEGE IN BAIJNATH

- ❖ The Dalai Lama inaugurated **Khangar Druk Dhamakara College** in the Tashi Jong monastery in the **Baijnath area of Kangra district.**
- ❖ The college would offer **degrees in Buddhism based on Nalanda traditions.**



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