MONTHLY
CURRENT AFFAIRS
MAGAZINE

SPECIAL QUICK REVISION (TRUE / FALSE)

OCTOBER 2022

DIGITAL RUPEE

UNIFORM CIVIL CODE

THE NOBEL PRIZE IN PHYSICS 2022
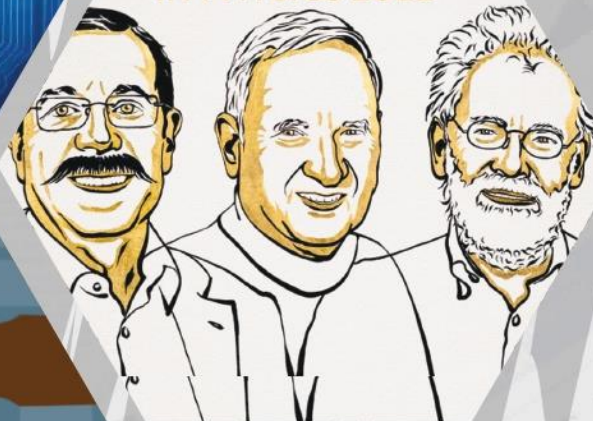
Classroom Material

Table of Contents

Economy

Environment

Science and Technology

Geography

Polity

International Relations

Society

Security

History and Culture

Miscellaneous

Economy

1. Global Innovation Index

Why in News?

The Global Innovation Index 2022 has been released by the World Intellectual Property Organization (WIPO).

About

- Released by ➔ **World Intellectual Property Organization** (WIPO) annually.
- Aim ➔ To **track the most recent global innovation trends** against the background of an ongoing COVID-19 pandemic, slowing productivity growth and other evolving challenges.
- Parameters ➔ The index is calculated as the average of **two sub-indices**.
    o **Innovation Input Sub-Index**: It gauges elements of the economy that enable and facilitate innovative activities and is grouped into five pillars: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication.
    o **Innovation Output Sub-Index**: It captures the actual result of innovative activities within the economy and is divided into two pillars: (6) Knowledge and technology outputs and (7) Creative outputs.

☞ **Key findings**

- Topped by ➔ **Switzerland** has emerged as the world's most innovative economy for the 12th consecutive year.
- India ➔ India has been ranked at the **40th position** in the index in 2022. This is the **first time** India has entered the top 40. In 2021, India was in the 46th position.

2. Small Savings Schemes

Why in News?

The government announced minor upticks of 0.1% to 0.3% in the interest rates payable on five small savings instruments (SSIs), including the Kisan Vikas Patra, Senior Citizens' Savings scheme and time deposits for 2 and 3 years.

About

- Small Savings Schemes are a set of savings instruments **managed by the central government** with an aim to **encourage citizens to save regularly irrespective of their age**.
- They are popular as they not only provide returns that are generally **higher than bank fixed deposits** but also come with a **sovereign guarantee and tax benefits**.
- All deposits received under various small savings schemes are **pooled in the National Small Savings Fund**. The money in the fund is used by the central government to **finance its fiscal deficit**.

Classification:

- Post office deposits ➔ **Savings deposit**, **Recurring deposit** and **Time deposits** with 1, 2, 3 and 5 year maturities and the Monthly Income Account.
- Savings Certificates ➔
    o National Savings Certificate: The interest that is earned is **reinvested** into the scheme every year automatically.
    o Kisan Vikas Patra: **Open to everyone**, **doubles the one-time investment** at the end of 124 months signifying a return of 6.9% compounded annually.
- Social Security Schemes ➔
    o Public Provident Fund: Public Provident Fund (**PPF**) is a **retirement savings scheme** offered by the Government of India with the aim of providing a secure post-retirement life to everyone.
    o Sukanya Samriddhi Account:

- It was launched in **2015** under the Beti Bachao Beti Padhao campaign **exclusively for a girl child**.
- The account can be opened in the name of a girl child **below the age of 10 years**.
- The scheme **guarantees a return of 7.6% per annum** and is eligible for tax benefit under Section 80C of the Income Tax Act.
  - Senior Citizens Savings Scheme: Can be opened by anyone who is **over 60 years of age**.

3. Bhavnagar CNG terminal

Why in News?

Prime Minister has laid the foundation stone for the "world's first CNG (Compressed Natural Gas) terminal" at Bhavnagar in Gujarat.

About

- The idea got incepted during the **January 2019 Vibrant Gujarat summit** when a consortium of some stakeholder signed MoU with Gujarat Maritime Board (GMB) for development of the CNG terminal.
- The port will be built **under the BOOT** (Build, Own, Operate and Transfer) **policy of the state government**.
- The state-run GMB will **continue to operate the berths** on the south side of the port.
- Why is the Bhavnagar port important? ➔
  - The Bhavnagar port is in **close vicinity to the Dholera Special Investment Region (SIR**) and is expected to serve the industries that set up base in the region.
  - It is **already connected to the northern hinterland** through a railway line that extends to the existing berths at the port.

👉 **Natural gas vs. LPG**

- LPG, or liquefied petroleum gas, is a **mixture of light hydrocarbons**.
- It consists of **at least 90% of propane**, with the balance made up of other gases including butane.
- Natural gas, in contrast, is **almost entirely made up of methane**.
- Compressed Natural Gas, or **CNG**, and Liquefied Natural Gas, or LNG, are the **same substance**.
- CNG is received and stored in a vehicle's tank in **gaseous form**.
- To obtain LNG, natural gas is **compressed and cooled to extremely low temperatures**, at which point it turns to liquid.
- LNG can then be **shipped**, **stored**, and **used to fill the tanks of LNG vehicles**.
- Much of the global natural gas trade **occurs in the form of LNG**.

4. Textiles listed in the UNESCO document

Why in News?

UNESCO has released a list of 50 exclusive and iconic heritage textile crafts of India under the title "Handmade for the 21st Century: Safeguarding Traditional Indian Textile".

About

- The UNESCO document **lists the histories and legends behind the textiles**, describes the complicated and secret processes behind their making, mentions the causes for their dwindling popularity, and provides strategies for their preservation.
- Some of the textiles mentioned are ➔
  - From North: **Khes from Panipat**, **Chamba rumals from Himachal Pradesh**, **Thigma or wool tie and dye from Ladakh** and **Awadh Jamdani from Varanasi**.
  - From the south: **Ilkal and Lambadi or Banjara embroidery** from Karnataka, **Sikalnayakanpet Kalamkari** from Thanjavur, **Toda embroidery and Sungadi** from Tamil Nadu and **Himroo weaves** from Hyderabad.

o Other states: **Kunbi weaves** from Goa, **Mashru** weaves and **Patola** from Gujarat, **Himroo** from Maharashtra and **Garad-Koirial** from West Bengal and **Bandha tie and dye weaving** from Sambalpur in Odisha.
- Significance of this document ➔ This list by UNESCO is significant as one of the major challenges to the **safeguarding of Intangible Cultural Heritage** in South Asia is the lack of proper inventory and documentation.

5. Bharatskills Platform

Why in News?

A new feature called the Bharatskills Forum has been added to the Bharatskills learning platform that allows sharing of books, notes, videos, question banks, etc. and other relevant skill-related content for learners.

About

- Launched in ➔ **2019**.
- Launched by ➔ **Directorate General of Training** (**DGT**) in the Ministry of Skill Development and Entrepreneurship (MSDE).
- Purpose ➔ It is a **Central Digital Repository for the trainees and trainers of the ITI ecosystem**, providing easy access to updated curriculum, e-books, Question Banks, mock/practice papers, learning videos for courses under the Craftsmen Training Scheme (CTS), Craft Instructor Training Scheme(CITS) and the Apprenticeship Training Scheme(ATS).
- Significance ➔ This platform presents **unique access to a centralized**, **scalable**, and **thriving support ecosystem** through its industrial partners for the students and teachers who can now learn the new age (Industrial Revolution 4.0) skills to meet the demands of the industry.

6. Vande Bharat 2.0

Why in News?

Prime Minister has inaugurated the new upgraded Vande Bharat Express.

About

- Vande Bharat Express also known as **Train 18**, is an Indian semi-high-speed, intercity, EMU train which is **operated by the Indian Railways**.

👉 **Major-upgraded features of Vande Bharat 2.0**

- Speed ➔ It can attain a **speed of 0 to 100 kilometres per hour in just 52 seconds** and a maximum speed of up to 180 kilometres per hour.
- Weight ➔ It will **weigh 392 tons** when compared to the previous version of 430 tons.
- Safety Features ➔ The train comes fitted with the **automatic anti-collision system Kavach**, which the previous trains did not have. Coaches have **disaster lights and their battery backup** is for three hours, increased from the last one's one-hour battery backup.
- Seats ➔ All the seats are **recliner seats** as opposed to the previous versions which had fixed backseats in the lower class. Executive Coaches have the **added feature of 180-degree rotating seats**.
- Wifi ➔ The train also has a **wifi-enabled onboard infotainment system** and an **LCD display in each coach**.
- Air purification ➔ The internal air is filtered through **photocatalytic ultraviolet air purification systems with UV lamps** which deactivates 99 percent of germs.

7. Card Tokenization

Why in News?

The Reserve Bank of India (RBI) signalled that it would not extend the October 1, deadline for implementation for tokenization of card based payments.

About

- Tokenization refers to **replacement of actual card details with an alternate code** called the "token", which shall be unique for a combination of card, **token requestor** (i.e. the entity which accepts request from the customer for tokenization of a card and passes it on to the card network to issue a corresponding token) and **device** (referred hereafter as "identified device").
- By initiating a request on the platform **made available by the token requestor or entity**, the cardholder can have their card tokenized. A **token matching to the card details**, the token requestor, and the device will be issued by the card network, such as Mastercard, Visa, RuPay, or American Express, with the approval of the card issuer.
- Benefits ➔
  - Tokenization not only aids in making the payment transaction experience **more secure** for the end user but also **aids merchants in delivering a consistent user experience** and higher transaction approval rates with speed and security.
  - Since the actual card data are not given to the merchant during transaction processing, tokenized card transactions are **regarded to be safer**.

8. Telecom Technology Development Fund (TTDF) Scheme

Why in News?

Universal Service Obligation Fund (USOF), a body under the Department of Telecommunications, officially launched Telecom Technology Development Fund (TTDF) Scheme.

About TTDF

- Telecom Technology Development Fund (TTDF) aims to **fund R&D in rural-specific communication technology applications** and **form synergies** among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.
- Additionally, the Scheme aims to **promote technology ownership and indigenous manufacturing**, create a culture of technology co-innovation, reduce imports, boost export opportunities and creation of Intellectual Property.
- Under the scheme, USOF is also targeting to **develop standards** to meet countrywide requirements and **create the ecosystem** for research, design, prototyping, use cases, pilots, and proof of concept testing, among others.

👉 USOF

- The Universal Service Obligation Fund (USOF) was **formed by an Act of Parliament**, and was established in **April 2002** under the Indian Telegraph (Amendment) Act 2003.
- It aims to **provide financial support** for the provision of telecom services in commercially unviable rural and remote areas of the country.
- It is an **attached office of the Department of Telecom**, and is headed by the administrator, who is appointed by the central government.
- Funding Pattern:
  - USOF is a **non-lapsable Fund**.
  - The Levy amount is credited to the **Consolidated Fund of India**.
  - The fund is made available to USOF **after due appropriation by the Parliament**.

9. Biomass Co-firing

Why in News?

Recently, an inter-ministerial meeting of the Environment, Agriculture and Power Ministries to review the progress of biomass co-firing in thermal power plants was held in New Delhi.

About

- Biomass co-firing is a **method for efficiently and cleanly converting biomass to electricity** by adding biomass as a partial substitute fuel in high-efficiency coal boilers.
- In this meet, the Government is **considering cutting coal supply** for those thermal power plants that do not comply with the policy on biomass co-firing.
- Directions were also **given to all thermal power plants** in NCR region to install biomass pellet manufacturing plants in their premises.
- Benefits ➔ Ministry of Power launched the National Mission on Use of Biomass in Thermal Power Plants (**SAMARTH Mission**) **provides for co-firing of biomass waste in Thermal Power Plants**.
    - This **reduces the challenges of stubble burning** into an opportunity for green power production.
    - This helps in the reduction of air pollution in the Northwest region of our country and also helps in the income generation for farmers.
- Issues ➔ **Unavailability of biomass pellets** of agricultural residues as the manufacturing capacity is relatively low.
    - Biomass pellet suppliers fetch better prices from other industries such as textile, food processing.

10. Pradhan Mantri Awas Yojana (Gramin)

Why in News?

Recently, according to the data shared by the government over 69% houses constructed under PMAY in rural India are either wholly or jointly owned by women.

About

- It was launched by the Prime Minister in **2016** with the aim of **constructing 2.95 crore houses**.
- Objective ➔ Under the scheme, **financial assistance** is provided for construction of pucca houses to all houseless and households living in dilapidated houses.
- Implementation ➔ Implemented in rural areas **throughout India except Delhi and Chandigarh**.
- Funding Pattern ➔ The cost of unit assistance is to be **shared** between Central and State Governments in the **ratio 60:40 in plain areas** and **90:10 for North Eastern and hilly states**.
    - The unit assistance given to beneficiaries under the programme is **Rs 1, 20,000 in plain areas** and to **Rs 1, 30,000 in hilly states/difficult** areas /Integrated Action Plan (IAP) for Selected Tribal and Backward Districts.
- Other features ➔
    - The beneficiary is entitled to **90/95 days of unskilled labour** from MGNREGA.
    - The beneficiary would be facilitated to avail **loan of up to Rs.70, 000/-** for construction of the house which is optional.
    - Funds will be **transferred electronically directly** to the account of the beneficiary.
- Target Group ➔
    - Identification of beneficiaries eligible for assistance and their prioritisation to be done using information from **Socio Economic and Caste Census (SECC)** ensuring total transparency and objectivity.
    - The list will be **presented to Gram Sabha to identify beneficiaries** who have been assisted before or who have become ineligible due to other reasons. The **finalised list** will be published.
    - **Gram Sabha** will need to justify in **writing with reasons** for any alteration of priority in the original list.

11. India's Sugar Industry

Why in News?

In Sugar Season (Oct-Sep) 2021-22, India emerged as the world's largest producer and consumer of sugar and world's 2nd largest exporter of sugar.

About Sugarcane

- A **highly water intensive crop** cultivated of tropical and subtropical areas.

- It grows well in **hot and humid climate** with a temperature of **21°C to 27°C** and an annual rainfall between **75cm and 100cm**.
- Sugarcane can be grown on **variety of soils**.
- It is largely an **irrigated crop** in India and **needs manual labour** from sowing to harvesting.
- It is the main source of **sugar**, **jaggary**, **khandsari** and **molasses** (raw material for ethanol production).
- **Maharashtra**, **Uttar Pradesh**, **Karnataka**, **Gujarat**, **Andhra Pradesh**, **Tamil Nadu** and **Telangana** are Sugarcane producing states in India.
- The diversion of **sugar to ethanol** and **exports led** to unlocking of value chain of the whole industry as well as improved financial conditions of sugar mills.
- Note ➔ Under **Ethanol Blending with Petrol (EBP) Programme**, India targets for **20% blending by 2025**.

👉 Fair and Remunerative Price

- The Fair and Remunerative Price (FRP) is the **minimum price** that **sugar mills have to pay to sugarcane farmers**.
- It is approved by the **Cabinet Committee on Economic Affairs** (**CCEA**).
- The FRP has been determined on the basis of **recommendations of Commission for Agricultural Costs and Prices** (**CACP**) and after consultation with State Governments and other stake-holders.

12. Digital Services Act (DSA)

Why in News?

The European Union (EU) has given final approval to online safety-focused legislation, which is an overhaul of the region's social media and e-commerce rules.

About

- Called the Digital Services Act (DSA), the law tightly **regulates the way intermediaries**, **especially large platforms** such as Google, Meta, Twitter, and YouTube, function in terms of moderating user content.
- It will give **better protection to users** and **to fundamental rights online**, establish a powerful transparency and accountability framework for online platforms and provide a single, uniform framework across the EU.

👉 Key features of the Digital Services Act

- Faster removals and provisions to challenge ➔ The social media companies will have to add "**new procedures for faster removal**" **of content deemed illegal or harmful**. They will also have to explain to users how their content takedown policy works. It also **allows for users to challenge takedown decisions** taken by platforms and seek out-of-court settlements.
- Bigger platforms have greater responsibility ➔ Under the DSA, '**Very Large Online Platforms**' (**VLOPs**) and '**Very Large Online Search Engines**' (VLOSEs), that is platforms, **having more than 45 million users** in the EU, will have more stringent requirements.
- Direct supervision by European Commission ➔ These requirements and their enforcement will be **centrally supervised by the European Commission itself**.
- More transparency on how algorithms work ➔ VLOPs and VLOSEs will **face transparency measures and scrutiny** of how their algorithms work.
- Clearer identifiers for ads and who's paying for them ➔ Online platforms must ensure that users can **easily identify advertisements and understand who presents or pays** for the advertisement. They must not display personalised advertising directed towards minors or based on sensitive personal data.

13. Quality Council of India (QCI)

The Quality Council of India is set to celebrate its Silver Jubilee at the Ambedkar International Centre in New Delhi.

About

- Quality Council of India was **set up in 1997**, **jointly by the Government of India and the Indian Industry** represented by the three premier industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI), with Mr Ratan Tata as its first Chairman.
- QCI was established as a **National body for Accreditation**. It is a **non-profit organization** registered under the Societies Registration Act XXI of 1860.
- QCI has launched a marquee campaign–**Gunvatta Se Atmanirbharta**: India's quality movement. The campaign aims to **celebrate India's quality hubs**, **create awareness** about India's landmark achievements and inform people about the many initiatives that India is embracing with an aim to enhance the quality of lives of all our citizens.

14. 'herSTART' Platform

Why in News?

Recently, the President of India has launched 'herStart' — a start-up platform of Gujarat University for women entrepreneurs.

About

- Besides encouraging the entrepreneurial endevours of women, the 'HerStart' initiative will **link the women entrepreneurs with various private and government platforms**.
- It will **boost innovation and start-up** efforts of women entrepreneurs.
- It will provide **resources** and **training modules free of cost** to aspiring women entrepreneurs.
- India has moved from **81st position to 40th position** in the Global Innovation Index (GII) of 2022 as a result of the startup program started across the country.

15. India Mobile Congress

Why in News?

The 6th edition of Asia's largest telecom festival, India Mobile Congress 2022 concluded with grand success.

About

- Organised by ➔ **Department of Telecommunications** and **Cellular Operators Association of India** (COAI).
- IMC is considered the **largest Digital Technology Forum in Asia** for bringing together the industry, Government, academia, and other ecosystem players to discuss the latest industry technology trends around major themes such as SG, Artificial Intelligence (AI), Internet of things (IoT) etc.
- Concerned Ministry ➔ **Minister of Information Technology**.

👉 **Key highlights of India Mobile Congress 2022?**

- At the India Mobile Congress in Delhi, Prime Minister **announced the 5G services** will be rolled out in a phased manner. In the first phase, the 5G services is launched in thirteen cities.

👉 **5G or fifth generation technology**

- 5G or fifth generation technology is the next generation of mobile communication networks, which is supposed to offer **much faster speeds** and **wider use cases than 4G**.
- Differences between 4G and 5G ➔ The difference lies in the **high speeds**, **superior reliability** and **negligible latency**.
- Low level of Latency ➔ The 5G technology promises **very low latency of near 5 milliseconds**, while 4G latency ranges from 30ms to 100ms.
    - o Latency is the time gap between the command and response of the network.

- Speed ➔ 5G services - depending on areas and connectivity - are expected to support **speeds of up to 300 Mbps or more**, while 4G speed can only offer up to 40-50 Mbps.
- Spectrum in the **1GHz – 6GHz range** is considered ideal for 5G.
- A **high-band spectrum** may give you extremely fast speeds but you will have to be in an excellent coverage area.
- On the other hand, **low-band may give more coverage** but the performance may not be significantly better than 4G.
- Switching to 5G - Switching from 4G to 5G does **not require new 5G sim**, but it **needs 5G-enabled phone**.

16. Impossible Trinity

Why in News?

The Impossible Trinity or trilemma has come under focus recently as the U.S. The Federal Reserve has been raising interest rates to fight rising prices.

About

- It refers to the idea that an **economy cannot pursue independent monetary policy**, **maintain a fixed exchange rate**, and **allow the free flow of capital across its borders at the same time**.
- According to economists, any economy can choose to **pursue only two** out of the three policy options noted above simultaneously in the long-run.
- The idea was proposed independently by Canadian economist **Robert Mundell** and British economist **Marcus Fleming** in the **early 1960s**.
- The impossible trinity or the trilemma on RBI ➔ The Reserve Bank of India may **face the dilemma of choosing** between maintaining the value of the rupee and holding on to its monetary policy independence. As the U.S. The Federal Reserve has raised interest rates, there has been **increasing pressure on the rupee**, which has **depreciated almost 10%** against the U.S. dollar this year.

17. Competition Commission of India

Why in News?

Union Minister for Finance & Corporate Affairs Smt. Nirmala Sitharaman inaugurates Competition Commission of India's Regional Office (West) in Mumbai.

About

- Status ➔ A **statutory body** established under the provisions of The Competition Act, 2002.
- Established in ➔ **2003**.
- Composition ➔ A **Chairperson and 6 Members** appointed by the Central Government.
- Headquarters ➔ **New Delhi**.
- Preceding agency ➔ **Monopolies and Restrictive Trade Practices Commission**.
- Mandate ➔ To implement provisions of The Competition Act, 2002 which –
  - **prohibits anti-competitive agreements** and abuse of dominant position by enterprises
  - **regulates mergers and acquisition** (M&A) which can have an adverse effect on competition within India. Thus, deals beyond a certain threshold are required to get clearance from CCI.

18. One District One Product scheme

Why in News?

PM Modi calls for giving boost to One District One Product scheme & further develop Aspirational Districts.

About

- ODOP was launched by the **Ministry of Food Processing Industries**, to help districts reach their full potential, foster economic and socio-cultural growth, and create employment opportunities, especially, in rural areas.

- This initiative is carried out with the '**Districts as Exports Hub**' **initiative by the Directorate General of Foreign Trade** (DGFT), Department of Commerce.
- There may be **more than one cluster** of ODOP products in one district. The **States would identify** the food product for a district, **keeping in perspective** the focus of the scheme on perishables.
- The ODOP product could be a **perishable Agri produce**, **cereal-based product**, or **a food product** widely produced in a district and their allied sectors.
- The ODOP launch date is **January 24, 2018**, **by the Uttar Pradesh Government**, and due to its success, was later **adopted by the Central Government**.

👉 **Aspirational Districts Programme (ADP)**

- Launched by the Hon'ble PM in **January 2018**, it aims to <u>quickly and effectively transform</u> 112 most under-developed districts across the country.
- The ranking is based on the **incremental progress made across 49 Key Performance Indicators** (**KPIs**) under 5 broad socio-economic themes - Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development and Infrastructure.

19. Credit Guarantee Scheme for Startups

Why in News?

The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry has notified the establishment of the Credit Guarantee Scheme for Startups (CGSS).

About

- The scheme will provide **credit guarantees for Startups to loans** extended by Scheduled Commercial Banks, Non-Banking Financial Companies and Securities and Exchange Board of India (SEBI) registered Alternative Investment Funds (AIFs).
- Aim ➔ Providing credit guarantees **up to a specified limit against loans extended** by Member Institutions (MIs) to finance eligible borrowers.
- Eligibility ➔ To **all the startups** as defined in the Gazette Notification issued by DPIIT.
- Credit guarantee cover ➔ The cover under the Scheme would be **transaction-based and umbrella based**. The exposure to individual cases would be **capped at Rs. 10 crores per case** or **the actual outstanding credit amount**, whichever is less.
- Transaction-based guarantees will **promote lending by Banks**/ **NBFCs** to eligible startups. On the other hand, umbrella-based guarantee cover will provide **guarantee to Venture Debt Funds (VDF)** registered under AIF regulations of SEBI.
- Operational oversight ➔ DPIIT will be constituting a **Management Committee** (MC) and a **Risk Evaluation Committee** (REC) for reviewing, supervising and operational oversight of the Scheme.
- Operating agency ➔ The **National Credit Guarantee Trustee Company Limited** (NCGTC) will be operating the Scheme.

20. Digital Rupee (e-rupee)

Why in News?

The RBI released a concept note on digital rupee (e-rupee). The Government of India had also announced the launch of a CBDC in its 2022 Union Budget.

About

- E-rupee or digital rupee is a **digital version of the Indian rupee** that the RBI is exploring.

- E-rupee is **akin to sovereign paper currency** but **takes a different form**, exchangeable at par with the existing currency and will be accepted as a medium of payment, legal tender and a safe store of value.
- It would **appear as a liability** on a central bank's balance sheet.
- According to the RBI, e-rupee can be structured as '**token based**' or '**account**-**based**'.
  - A **token-based CBDC** is a bearer instrument **like banknotes**, meaning whosoever holds the tokens at a given point in time would be presumed to own them
  - In contrast, an **account-based system** would **require maintenance of record of balances and transactions** of all holders of the CBDC and indicate the ownership of the monetary balances
- The RBI has proposed to issue two versions - **wholesale for interbank settlement** and **retail for the public**.
- Benefits ➜ Transacting in e-rupee can **take away the inconvenience** of carrying around physical notes and coins.
- Apart from this, the RBI has outlined some benefits for the country as a whole, such as **financial inclusion**, **innovation** and **lowering the costs of cash transactions**.

21. Purse Seine Nets

Why in News?

Recently, fishermen of Tamil Nadu protested against the blanket ban of purse seine nets and demanded to regulate it in order to protect the interest of small and traditional fishermen.

About

- What is it? ➜ Purse seine is a **non-selective fishing method** that captures everything that it surrounds.
- A purse seine net is a **large net used in an entire area**.
- The seine floats along the top line with a **lead line** threaded through rings along the bottom.
- Once a school of fish is located, **a skiff encircles them**.
- The **lead line is then pulled in**, pursing the net closed on the bottom, preventing fish from escaping.
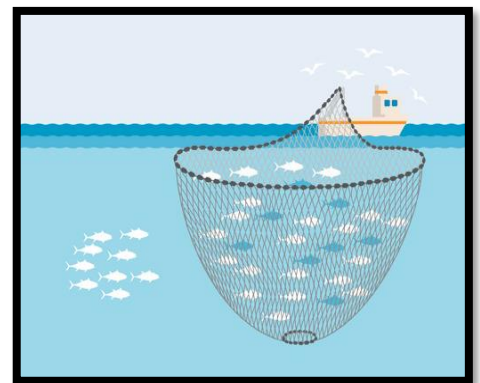
☞ Other Fishing Types

- **Gill nets** ➜ They are set up to be a wall with holes in it. Fish unknowingly swim into it and get stuck.
- **Bull trawling** ➜ In bull trawling or pair trawling, a net is tied between two mechanised boats and it is dragged for some kilometres to catch fish.
- **Bottom trawler** ➜ This involves weighing a net down to the seafloor then dragging it across the bottom to scoop up fish.

22. Committee on sustainable finance

Why in News?

A "committee of experts on sustainable finance" was constituted by International Financial Services Centres Authority (IFSCA) at the GIFT City. Now, the committee has submitted its suggestions.

About

- What is it? ➜ It refers to **any form of financial service integrating** environmental, social and governance(ESG) **criteria into the business or investment decisions** for the lasting benefit of both clients and society at large.

☞ Committee of experts on sustainable finance

- Headed by ➜ **CK Mishra**, former secretary, Union Ministry of Environment, Forest and Climate Change

- Major focus ➔ The main focus of the committee was to **align the IFSC regulations with international best practices**.
- The committee also **explored ways** in which capital flows through IFSC can be enhanced and support the development of innovative financial products in the area of green and sustainable finance.
- major recommendations of the committee? ➔
    o Significance of the MSME: Considering the significance of the MSME sector in the economic development of the country, the committee also proposed setting up of a **dedicated MSME platform for sustainable lending**.
    o Some other important recommendations include a) **Developing a voluntary carbon market**, b) **A framework for transition bonds**, c) **Enabling de-risking mechanisms**, d) **Promoting a regulatory sandbox for green fintech** and e) **Facilitating the creation of a global climate alliance among others**.
    o The committee also recommended **facilitating the use of innovative instruments** such as catastrophe bonds, municipal bonds, green securitisation, and blended finance among others.

23. Nobel Prize in Economic Sciences 2022

Why in News?

The Royal Swedish Academy of Sciences has decided to award the 2022 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel to Ben S. Bernanke, Douglas W. Diamond and Philip H. Dybvig "for research on banks and financial crises."

About

- The work for which **Ben Bernanke**, **Douglas Diamond** and **Philip Dybvig** are being recognised has been crucial to subsequent research that has enhanced our understanding of **banks**, **bank regulation**, **banking crises** and **how financial crises should be managed**.

☞ **Ben S. Bernanke:**

- Ben Bernanke **analysed the Great Depression of the 1930s**, the worst **economic crisis** in modern history.
- Through statistical analysis, Bernanke demonstrated **how failing banks played a decisive role** in the global depression of the 1930s.
    o He showed **how bank runs were a decisive factor in the crisis becoming so deep and prolonged**.
    o It also helped in understanding the **importance of well-functioning bank regulation**.
- Bernanke was the head of the US central bank, the Federal Reserve, when the 2008 crisis hit, and was able to "**put knowledge from research into policy**".

☞ **Douglas W. Diamond and Philip H. Dybvig:**

- Both Diamond and Dybvig worked together to develop **theoretical models explaining why banks exist, how their role in society makes them vulnerable to rumors** about their impending collapse, and how society can lessen this vulnerability. These insights form the foundation of modern bank regulation.
- They presented a **solution to bank vulnerability**, in the form of deposit insurance from the government. When depositors know that the state has guaranteed their money, they **no longer need to rush to the bank** as soon as rumors start about a bank run.
- Diamond also showed **how banks perform a societally important function**. As intermediaries between **savers and borrowers**, banks are better suited to **assessing borrowers' creditworthiness** and ensuring that **loans are used for good investments**.

24. Forex Reserves

Why in News?

According to the Reserve Bank of India (RBI), India's forex reserves have fallen by USD 110 billion in the last 13 months.

About Forex Reserves

- Forex reserves are assets held on **reserve by a central bank in foreign currencies**, which can include bonds, treasury bills and other government securities.
- Most foreign exchange reserves are held in **US dollars**.
- Components ➔ **Foreign Currency Assets**, **Gold reserves**, **Special Drawing Rights**, **Reserve position** with the International Monetary Fund (IMF).
- Significance of Forex Reserves ➔
    - **Supporting and maintaining confidence** in the policies for monetary and exchange rate management.
    - **Provides the capacity to intervene** in support of the national or union currency.
    - **Limits external vulnerability** by maintaining foreign currency liquidity to absorb shocks during times of crisis or when access to borrowing is curtailed.

👉 **Special Drawings Rights**

- The SDR is an **international reserve asset**, created **by the IMF in 1969** to supplement its member countries' official reserves.
- The SDR is neither a currency nor a claim on the IMF. Rather, it is a **potential claim on the freely usable currencies** of IMF members. SDRs can be exchanged for these currencies.
- The value of the SDR is calculated from a **weighted basket of major currencies**, including the **US dollar**, **the euro**, **the Japanese yen**, **the Chinese yuan**, and **the British pound**.
- The **interest rate** on SDRs or (SDRi) is the interest paid to members on their SDR holdings.

25. Grameen Udyami Project

Why in News?

Skill India certifies candidates trained under the second phase of Grameen Udyami Project to boost skill development in tribal communities.

About

- Grameen Udhyami is a **unique multi-skilling project** funded by the **National Skill Development Corporation**.
- Grameen Udhyami Project aims to **skill tribal youth across India** to enable them to create a perennial stream of income without having to migrate to urban areas.
- Implementation ➔ Grameen Udyami Yojana is implemented **under Sansadiya Parisankul Yojana**.
- The project is being implemented in six states - **Maharashtra**, **Rajasthan**, **Chhattisgarh**, **Madhya Pradesh**, **Jharkhand**, and **Gujarat**.
- Training ➔ **Transportation**, **boarding** & **lodging** during the learning period is provided to candidates by the implementation Agencies.
    - The training under the project will be **conducted in the Job roles** which are relevant to the local economy.
    - It focuses on **agriculture**, **fisheries**, and **forest-related roles** to suit the local demand.
    - Skilling will also be **done in upcoming sectors** like **construction**, **food processing**, **handicraft**, **healthcare**, **BFSI**, **IT-ITES**, etc.
    - The content and curriculum will also include **employability skills**, **financial** and **digital literacy**, and **entrepreneurship modules**.

26. Digital Banking Units

Why in News?

The Prime Minister has dedicated 75 Digital Banking Units(DBU) across 75 districts to the nation.

About

- What is it? ➜ A digital banking unit is a specialized fixed point business unit or hub, housing a **certain minimum digital infrastructure for delivering digital banking products and services** as well as servicing existing financial products and services digitally in self-service mode at any time.
- The DBUs are being set up with the objective to ensure the benefits of digital banking **reach every nook and corner of the country** and **will cover all the States and Union territories**.
- Who will set up these DBUs? ➜
    - **Commercial banks** (other than regional rural banks, payment banks and local area banks) with **past digital banking experience** are permitted to open DBUs in **tier 1 to tier 6 centers** unless otherwise specifically restricted without having the need to take permission from the RBI in each case.
    - Currently, **11 Public Sector Banks**, **12 Private Sector Banks** and **one Small Finance Bank** are participating in this endeavour.
- What are the services DBUs will provide? ➜
    - DBUs will be **brick-and-mortar outlets** which will provide a **variety of digital banking facilities** to people such as opening savings accounts, transfer of funds, investment in fixed deposits, loan applications, stop-payment instructions for cheques issued, applying for credit/debit cards, view statement of account, pay taxes, pay bills among others.
    - They will also **spread Digital Financial Literacy** and special emphasis will be given to **customer education on cyber security awareness and safeguards**.

27. Plant based meat

Why in News?

Recently, cricketer M S Dhoni picked up an undisclosed equity stake in plant-based meat startup Shaka Harry. A couple also founded plant-based Imagine Meats in September 2021.

About

- What is it? ➜ "Plant-based" refers to products that **bio-mimic or replicate meat**, **seafood**, **eggs**, and **milk derived from animals** — by looking, smelling, and tasting like them.
- How are Plant-based meat and dairy made? ➜
    - Animal meat contains **protein**, **fat**, **vitamins**, **minerals**, and **water**, just like plants. This biochemical similarity allows for finding analogues in the plant kingdom or making them through **mechanical**, **chemical**, or **biological treatment of such ingredients**.
    - The challenge lies in **replicating muscle tissue** that **plants don't have**. The unique spatial arrangement of proteins in these tissues is what creates the **distinct texture of animal meat**.
    - As for plant-based dairy, the main products are **milk from oats**, **almond**, **soyabean**, **coconut** and **rice**.
- How big are the plant-based meat and milk industry? ➜
    - According to the Good Foods Institute in Washington DC, retail sales of plant-based animal product alternatives in the US stood **at $7.4 billion in 2021**.
    - In India, there is **not much of a big market** at least in dairy. Most Indians take naturally milk which is a classic "superior food".

28. National Highways Infra Trust (NHAI InvIT)

Why in News?

According to the Union Minister for Road Transport and Highways, National Highways Infra Trust (NHAI InvIT) is looking to raise additional ₹3,800 crore and around Rs 1,500 crore were being garnered through an issue of non-convertible debentures (NCDs) with a long-dated maturity of 24 years.

About NHAI InvIT

- NHAI InvIT is the **infrastructure investment trust** sponsored by the National Highways Authority of India (**NHAI**) to **support the government's National Monetisation Pipeline** (NMP).
- NHAI's InvIT is a Trust established by NHAI under the **Indian Trusts Act, 1882** and **SEBI (Security and Exchange Board of India) regulations**.
- The Union Cabinet **chaired by Prime Minister Narendra Modi** had approved the NHAI's Infrastructure Investment Trust (InvIT) in December 2019.

👉 **InvITs**

- Infrastructure investment trusts are **institutions similar to mutual funds**, **which pool investments** from various categories of investors and invest them into completed and revenue-generating infrastructure projects, thereby creating returns for the investor.
- The capital market regulator notified the **SEBI (Infrastructure Investment Trusts) Regulations, 2014** on September 26, 2014, and these trusts are likely to **help facilitate investment** in the infrastructure sector.
- Structured like mutual funds, they have a **trustee**, **sponsor**(s), **investment manager** and **project manager**.
- While the **trustee** (certified by Sebi) has the **responsibility of inspecting the performance** of an InvIT, sponsor(s) are promoters of the company that set up the InvIT.

29. Reserve Bank Innovation Hub (RBIH)

Why in News?

India Post Payments Bank (IPPB) and Reserve Bank Innovation Hub (RBIH) collaborate for innovations in Financial Product and Services.

About

- The Reserve Bank Innovation Hub (RBIH) is a **wholly-owned subsidiary** of the Reserve Bank of India (**RBI**).
- It was set up to **promote and facilitate an environment** that accelerates innovation across the financial sector.
- RBIH will provide the platform to anchor a **shared vision among all financial ecosystem stakeholders** and **aid them in crafting forward-looking innovation strategies** while addressing the most pressing issues in the Indian financial sector.
- The organisation serves as a **focal point to position India as a global innovation hub** for a network of financial services providers, fintech innovation hubs, policymakers, technologists, academia, and the investor community.
- The network will be empowered to **ideate**, **incubate new capabilities**, and **enable access to sustainable**, **secure**, and **frictionless financial services** for over a billion Indians.

30. Coal in India

Why in News?

According to analysis by Global Energy Monitor (GEM), a firm that tracks utilisation of the fuel-source internationally – on average India's coal mines use only two thirds of the capacity with some large ones using only 1 percent.

About

- India is the **second largest producer and consumer** of coal after China.
- **Jharkhand is the largest** coal-producing state in India.
- The top coal-producing states includes **Odisha**, **Chhattisgarh**, **West Bengal**, **Madhya Pradesh**, **Telangana** and **Maharashtra**.
- Coal accounts for approximately **55%** of the country's energy needs compared to other energy sources.

👉 **Types of Coal:**

- Anthracite ➜

- o Anthracite is the **best quality** of coal which carries **80 to 95 per cent carbon content**.
  - o It **ignites slowly** with a blue flame and has the highest calorific value.
  - o It is found in small quantity in **Jammu and Kashmir**.
- Bituminous ➜
  - o Bituminous carries **60 to 80 per cent of carbon content** and a low level of moisture content.
  - o It is widely used and has **high calorific value**.
  - o It is found in **Jharkhand**, **West Bengal**, **Odisha**, **Chhattisgarh** and **Madhya Pradesh**.
- Lignite ➜
  - o Lignite is often **brown in colour**. It carries **40 to 55 per cent carbon content**.
  - o It is an **intermediate stage** which happens during the alteration of woody matter into coal.
  - o It has **high moisture content**, so it gives smoke when burnt.
  - o It is found in **Rajasthan**, **Lakhimpur** (Assam), and **Tamil Nadu**.
- Peat ➜
  - o Peat has **less than 40 per cent** carbon content.
  - o It is in the **first stage** of transformation from wood to coal.
  - o It has **low calorific value** and **burns like wood**.

31. Pokkali Rice

Why in News?

Pokkali farmers met on the side-lines of a pokkali rice harvest festival organised on in Kochi with sustainability dominating sessions addressed by agricultural officers and farmers.

About

- It is a **salt water-resistant variety** that grows tall.
- It is cultivated in the **coastal regions of Kerala**.
- Pokkali is an **ancient farming practice** where one season of rice farming is alternated with another season of prawn culture. Hence, pokkali rice is a part of the '**one fish and one rice**' annual cycle.
- The **prawn seedlings feed** on the leftovers of the harvested crop, while the rice crop, which gets no other fertiliser or manure, **draws nutrients from the prawns' excrement and other remnants**.
- Rice farming and prawn farming are **mutually complementary**.
- They are useful in **climate- resilient agriculture** as they can withstands flooding.
- A **storehouse of nutrition**, they are **rich in fibre and protein content**, antioxidants with benefits of vitamin E, and minerals such as iron, boron and sulphur
- Pokkali rice has a **geographical indication (GI) tag** since **2007**.

32. New Basmati Varieties

Why in News?

Five new Basmati varieties, developed by a group of scientists from Indian Agriculture Research Institute (IARI), in 2020 and 2021 will bring changes in the way paddy is cultivated in the country.

About

- Three of the five varieties can **resist two common diseases** of paddy.
- **Bacterial leaf blight** (BLB) and **blast** (leaf and collar) diseases caused by the fungus Magnaporthe oryzae.

👉 **New Varieties:**

- New varieties are **Pusa Basmati 1847**, **Pusa Basmati 1885** and **Pusa Basmati 1886**.
- All these varieties have **two genes to resist BLB** and **two genes to resist blast disease**.

- The **other two can save 35% of the water** now required as the seeds can be directly sown, obviating the need for transplanting seedlings.
- These two seeds are **resistant to herbicides too**, helping the farmers control weeds more efficiently.
- In the next three years, all of the five seeds will have the **combined qualities of disease and herbicide resistance**.

👉 **Basmati rice:**

- India is known for its **Basmati rice**, with the produce from seven States — **Jammu and Kashmir**, **Himachal Pradesh**, **Punjab**, **Haryana**, **Delhi**, **Uttar Pradesh** and **Uttarakhand** — earmarked for Geographical Indication.
- Basmati, known for its **mouthfeel, aroma**, **length of the grain** when cooked and taste, has a market abroad and brings about ₹30,000 crore in foreign exchange every year.
- While **75% of the export is to West Asian countries**, **European Union countries** also import Indian Basmati.

33. GM mustard

Why in News?

Genetic Engineering Appraisal Committee (GEAC) recently approved commercial cultivation of genetically modified mustard variety DMH (Dhara Mustard Hybrid)-11.

About

- The approval will make GM mustard **only the second approved transgenic crop** in India after **Bt cotton**, and the first such food crop that can be commercially cultivated by farmers. The GEAC approval is valid for the **next four years**.

👉 **Hybrid mustard**

- Hybridisation involves **crossing two genetically dissimilar plant varieties** that can even be from the same species. The first-generation (F1) offspring from such crosses tend to have **higher yields** than what either parent can individually give.
- Scientists at Delhi University's Centre for Genetic Manipulation of Crop Plants (CGMCP) have developed the **hybrid mustard DMH-11** containing two alien genes isolated from a soil bacterium called **Bacillus amyloliquefaciens**.
- The CGMCP scientists have deployed the **barnase-barstar GM technology** to create a robust and viable hybridisation system in mustard.
- This system was used to **develop DMH-11 by crossing** a popular Indian mustard variety '**Varuna'** (the barnase line) with an East European '**Early Heera-2**' mutant (barstar).
- DMH-11 is claimed to have shown an **average 28% yield increase over Varuna**.
- Significance ➔
    o The move is seen as giving a **boost to cultivation of mustard** and eventually reducing the country's edible oils import bills.
    o India had to **import edible oil worth nearly $19 billion in 2021-22**. Though mustard is cultivated in India in around seven million hectares of land, the per hectare yield of current variety is very low at 1-1.2 tonnes per hectare compared to the global average of around 2.3-3 tonnes.

👉 **Genetic Engineering Appraisal Committee (GEAC)**

- The GEAC is a **statutory body** notified under the Environment (Protection) Act, 1986.
- It was **formed as the Genetic Engineering Approval Committee** and was renamed to its current name in 2010.
- It functions under the **Ministry of Environment, Forests & Climate Change**.
- The body **regulates the use**, **manufacture**, **storage**, **import**, and **export of hazardous microorganisms** or genetically-engineered organisms and cells in India.

34. Role of RBI in issuing notes

Why in News?

Delhi Chief Minister Arvind Kejriwal recently appealed to the Union government to print images of Goddess Lakshmi and Lord Ganesh on new currency notes for the country's "economic prosperity.

About

- Section 22 of The Reserve Bank of India Act, 1934, gives RBI the "**sole right**" **to issue banknotes** in India.
- **Section 25 states that** "the design, form, and material of bank notes shall be such as may be approved by the Central Government after consideration of the recommendations made by the [RBI's] Central Board".
- The RBI's **Department of Currency Management** has the **responsibility of administering** the core function of currency management. If the design of a currency note has to change, the **Department works on the design and submits it to RBI**, which recommends it to the central government. The government gives the final approval.

☞ **Minting of coins**

- The **Coinage Act, 2011** gives the **central government the power** to design and mint coins in various denominations. In the case of coins, the **role of the RBI is limited to the distribution of coins** that are supplied by the central government.
- The government **decides on the quantity of coins** to be minted on the basis of indents received from the RBI on a yearly basis. Coins are **minted in four mints** owned by the Government of India in **Mumbai**, **Hyderabad**, **Kolkata** and **Noida**.

☞ **Types of notes issued so far**

- Ashoka Pillar Banknotes ➔ The first banknote issued in independent India was the **Re 1 note issued in 1949**. It replaced the **portrait of King George** with the symbol of the Lion Capital of the Ashoka Pillar at Sarnath in the watermark window.
    - o Mahatma Gandhi (MG) Series, 1996
    - o Mahatma Gandhi series, 2005
    - o Mahatma Gandhi (New) Series, 2016.

35. Kalanamak Rice

Why in News?

Indian Agriculture Research Institute has successfully tested two new dwarf varieties in Uttar Pradesh that give double the yield of traditional variety of Kalanamak rice.

About

- What is it? ➔ Kalanamak is a traditional variety of paddy with **black husk and strong fragrance**.
- It is considered a **gift from Lord Buddha** to the people of Sravasti when he visited the region after enlightenment.
- Grown in 11 districts of the **Terai region of north-eastern Uttar Pradesh** and in **Nepal**, the traditional variety has been prone to '**lodging**', a reason for its low yield.
- Its yield is barely **two to 2.5 tonnes per hectare**.
- Lodging: Lodging is a condition in which the **top of the plant becomes heavy** because of grain formation, the stem becomes weak, and the plant falls on the ground.
- Geographical Indication (GI) tag ➔ The traditional Kalanamak rice is **protected under the Geographical Indication (GI) tag system**.

☞ **New varieties:**

- Addressing the problem, the Indian Agriculture Research Institute (IARI) has successfully developed two dwarf varieties of Kalanamak rice.

- They have been named ➔
    - **Pusa Narendra Kalanamak 1638** and
    - **Pusa Narendra Kalanamak 1652**.
- The **yield of the new varieties is double** that of the traditional variety. The IARI and the Uttar Pradesh Council of Agriculture are working together to make the seeds available to farmers at the earliest.

36. IMPACT INVESTING

Why in News?

Recently, a study by Impact Investor's Council (IIC) suggested that leveraging India's strong potential in the impact investing space to accelerate the achievements of its SDG 2030 targets.

About

- The study also points that **Indian entrepreneurs** are applying technology solutions for impact.
- These stem from applied **engineering solutions** in various industries having an intersection with: **Climate mitigation and adaptation Agriculture Healthcare** diagnostics and devices

What is Impact Investing?

- It is an **investment strategy** that aims to generate specific **beneficial social or environmental effects in addition to financial gains**.
- Investors who follow impact investing consider a company's commitment to **corporate social responsibility** or the duty to positively **serve society as a whole**.
- It can be made in both **emerging and developed markets** and target a range of returns from below market to market rate, depending on investor's strategic goals.
- The growing impact investment market **provides capital to address the world's most pressing challenges** in sectors such as sustainable agriculture, renewable energy, conservation, microfinance, and affordable and accessible basic services including housing, healthcare, and education.

Some examples of impact investing:

- **Educate Girls Development Impact Bond**: The **world's first development impact bond (DIB) for education**, **the Educate Girls DIB**, was launched as a proof-of-concept project in Rajasthan.
- **Seed Funding in Healthcare**: There was an approximately 85 percent rise in the number of seed-stage deals in India across healthcare segments in 2020 like telemedicine, **cloud-enabled diagnostic tests** etc.

37. World Economic Outlook Report

Why in News?

Recently, the International Monetary Fund has released its latest edition of World Economic Outlook Report (WEO) 2022. It is a comprehensive report published twice a year by the International Monetary Fund (IMF).

About

- Global growth is forecast to slow from **6.0 percent in 2021 to 3.2 percent in 2022** and **2.7 percent in 2023**.
- Global inflation is forecast to rise from 4.7 percent in 2021 to 8.8 percent in 2022 but to **decline to 6.5 percent in 2023** and to **4.1 percent by 2024**.

☝ PROJECTION FOR INDIA:

- IMF has **cut down its FY23 growth forecast** for India by **60 basis points** from its July projection of 7.4 per cent to 6.8 per cent, its steepest cut for any major economy barring the US.

- The IMF stated that the move reflects "**a weaker-than-expected outturn**" in the June quarter and "more subdued external demand", indicating that exports will be hit.
- IMF's move follows the World Bank slashing its FY23 growth projection for India to 6.5 per cent last week, from 7.5 per cent predicted earlier.

👉 **IMF –**

- IMF is a **specialized agency of the United Nations** to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.
- Headquarters: **Washington D.C**
- Important publications: **The World Economic Outlook**, **The Global Financial Stability Report**.

38. PM-DevINE

Why in News?

The Union Cabinet has recently approved the Prime Minister's Development Initiative for the North East Region (PM-DevINE).

About

- The scheme will be operational for the remaining four years of the 15th Finance Commission, **from 2022-23 to 2025-26, and will have an outlay of Rs 6,600 crore**.
- **GOALS** –
  - The creation of infrastructure,
  - Support industries,
  - Social development projects and
  - Create livelihood activities for the youth and women, with a focus on job creation.
- It is a **central sector scheme** with 100% central funding.
- PM-DevINE will be implemented by the **Ministry of Development of North Eastern Region (DoNER)**, through the North Eastern Council or central ministries and agencies.

39. Section 66A of the IT Act

Why in News?

Recently, the Supreme Court ordered States and their police forces to stop prosecuting free speech on social media under Section 66A of the Information Technology Act, 2000.

About

- Section 66A of the Information Technology Act, of 2000 made it a **punishable offence** for any person to send offensive information using a computer or any other electronic device.
- The provision also made it punishable for a person **to send information that they believed to be false**.
- Section 66A had prescribed **three years' imprisonment** if a social media message caused "annoyance" or was found "**grossly offensive**".
- Even sending emails for **causing annoyance**, **inconvenience**, **or to deceive or mislead** the recipient about the origin of the message was punishable under this section.
- The court struck down the provision as **unconstitutional** and a **violation of free speech in 2015** in the Shreya Singhal Case.
- The section relating to **restrictions on online speech** was declared unconstitutional on grounds of **violating the freedom of speech** guaranteed under Article 19(1)(a) of the Constitution of India.

- It held that **<u>online intermediaries would only be obligated to take down content</u>** on receiving an order from a court or government authority.

Environment

1. Ranipur Wildlife Sanctuary

Why in News?

Uttar Pradesh (UP) approved the notification of the state's fourth tiger reserve in the Ranipur Wildlife Sanctuary (RWS) in Chitrakoot district.

About

- RWS founded in **1977**, has no resident tiger. However, it is an **important corridor for the movement of tigers**, according to the Status of tigers, co-predators and prey in India report by the National Tiger Conservation Authority (NTCA).
- The Ranipur Tiger Reserve will be the **fourth in UP**.
- It will also be the **first in the Bundelkhand region** of the state.
- Flora ➔ There is **dry deciduous forest of Bamboo**, **Palash**, **Khair**, **Mahua**, **Dhau**, **Saal**, **Tendu**, etc.
- Fauna ➔ **Blackduck**, **Chinkara**, **Sambar**, **Cheetal**, **Bear**, **Leopard**, **Wolf**, **Wild dog**, **Blue bull**, etc.
- Other Tiger Reserves in UP ➔
    - Dudhwa National Park
    - Pilibhit Tiger Reserve
    - Amangarh Tiger Reserve.

2. Hastinapur Wildlife Sanctuary

Why in News?

National Green Tribunal(NGT) has given the Government of Uttar Pradesh 45 days to finalise a notification under Section 26A of the Wild Life (Protection) Act, 1972 for protection of the Hastinapur Wildlife Sanctuary.

About

- It is spread across **Meerut**, **Ghaziabad**, **Bijnor** and **Jyotiba Phule Nagar districts of Uttar Pradesh**.
- The area was declared a Sanctuary in **1986** in order to **protect and conserve** the ecology and biodiversity of the Ganga basin.
- It has a **variety of landforms** and is a **mixture of different habitats** such as wetland, marshes, dry sand beds and gently sloping ravines.
- The grassland of the Sanctuary holds a variety of flora, **avifauna** and a **population of Swamp deer and Hog deer**.

3. Global Methane, Climate and Clean Air (GMCCA) Forum 2022

Why in News?

Global Methane, Climate and Clean Air (GMCCA) Forum 2022 is being held in Washington, DC, USA to discuss opportunities to protect the climate and improve air quality with a special focus on methane by adhering to the Global Methane Pledge.

About

- The Forum is a joint event sponsored by the **Global Methane Initiative** (**GMI**) and **the UNEP-convened Climate and Clean Air Coalition** (**CCAC**).
- High-level plenary sessions will be **held on global efforts** to reduce methane and other short-lived climate pollutants.
- The forum will **outline policy**, **political** and **scientific arguments for global ambition** on methane action. They also aim to **define a path forward**.

☞ **Global Methane Pledge**

- The Global Methane Pledge was launched at **COP (Conference of Parties) 26 in November 2021** to catalyse action to reduce methane emissions.
- It was led by the **United States and the European Union**.
- It has **111 country participants** who together are responsible for **45%** of global human-caused methane emissions.
  - India, which is **not a part of the Global Methane Pledge**, is among the top five methane emitters globally. Most emissions can be traced back to agriculture.
- By joining the Pledge, countries **commit to work together** in order to collectively reduce methane emissions by **at least 30% below 2020 levels by 2030**.

👉 Global Methane Initiative

- GMI is an **international public-private partnership** focused on reducing barriers to the recovery and use of methane as a clean energy source. It **provides technical support** to deploy methane-to-energy projects around the world that enable Partner Countries to launch methane recovery and use projects.
- **India is a partner** country of GMI.

4. Bannerman's Turaco

Why in News?

Bannerman's Turaco bird has come under serious threat at Kilum-Ijim Mountain Forest of Cameroon's northwest region.

About

- Bannerman's turaco is a species of bird in the **family Musophagidae**.
- It is endemic to **Cameroon**. Its scientific and common names honor the **ornithologist David Armitage Bannerman**.
- This bird has a **deep cultural value** for the people in the Cameroon grassfields.
- Its natural habitat is **subtropical or tropical moist montane forests**.
- It is threatened by **habitat destruction** and the International Union for Conservation of Nature has listed it as an "**endangered species**".
- Threats: **Habitat destruction** due to clearing of forests for agricultural land.

5. Pangasius Icaria

Why in News?

A new catfish species has been discovered in the river Cauvery near Mettur Dam.

About

- The edible species has been named **Pangasius icaria** (P. icaria) after the Indian Council of Agricultural Research that discovered the species. The species belongs to the **Pangasius genus**.
- The genus Pangasius is **found in the Gangetic plains but not in peninsular India**.
- Through this study, they found that Pangasius specimens **from the river Cauvery** are different from other species of the genus Pangasius.
- The new species is **edible,** and the locals call it **aie keluthi in Tamil**.
- Catfish has **high commercial value** in aquaculture and wild capture fisheries.

👉 Mettur Dam

- It is the largest dam in the **southern state of Tamil Nadu**.
- It is situated **across the Cauvery River**.

6. National Clean Air Programme

The Government of India has set a new target of a 40% reduction in particulate matter concentration in cities covered under the National Clean Air Programme(NCAP) by 2026.

About

- Launched in ➔ 2019 by the Ministry of Environment, Forests and Climate Change(**MoEFCC**).
- Aim ➔ To **bring a 20%-30% reduction in pollution levels from PM2.5 and PM10 particles by 2024**, using 2017 pollution levels as a base year.
- Cities covered ➔ The program **covers 132** of India's most polluted or so-called **non-attainment cities**. This is defined as a city whose **air quality did not meet** the national ambient air quality standards from 2011 to 2015.
- Funding ➔ Under the programme, cities are required to quantify improvement starting 2020-21, which **requires a 15% and more reduction** in the annual average PM10 concentration and a concurrent increase in "good air" days to at least 200. Anything fewer will be considered '**low**' and **the funding consequently reduced**.
- Note ➔ For disbursing funds, the Central Pollution Control Board(**CPCB**) **only considers levels of PM10**, the relatively larger, coarser particles. However, **PM2.5**, the smaller, more dangerous particles, **aren't monitored** as robustly in all cities mostly due to the lack of equipment.
- What is the new target under NCAP? ➔ The government has set a new target of a **40% reduction in particulate matter concentration in cities covered under the NCAP by 2026**.

7. Community reserves

Why in News?

Increasing community reserves in North East India poses a serious question about the backdoor entry of the forest department.

About

- A community reserve is usually **formed by the local village council and the forest department** signing a memorandum of understanding (MoU).
- Community reserves **fall under the protected areas**, along with marine protected areas, national parks, wildlife sanctuaries and conservation reserves, according to the Wild Life (Protection) Act (WLPA), 1972.
- Once a forest land has been declared a community reserve, its **governance comes under forest department** instead of being governed by the local village councils.
- After a forest has been made into a community reserve, **people cannot hunt there**, **nor can they use it for agricultural practices**, leave alone jhum cultivation.
- But the village council members who agree to sign the MoU are **mostly illiterate** and **do not know what they are getting** into and changes the lives of local residents.

8. Corbett Tiger Reserve

Why in News?

Over 6,000 trees were illegally cut for the proposed Pakhro tiger safari project in Corbett Tiger Reserve (CTR), according to a report of the Forest Survey of India (FSI).

About

- Location ➔ It is located in the **Nainital district of Uttarakhand**. The Project Tiger was launched in **1973** in Corbett National Park (first National Park of India), which is part of Corbett Tiger Reserve.
- The core area forms the Corbett National Park while the **buffer contains reserve forests** as well as **the Sonanadi Wildlife Sanctuary**.
- Rivers ➔ **Ramganga**, **Sonanadi**, **Mandal**, **Palain** and **Kosi** are the major rivers flowing through the Reserve.

- Sprawling over 500 square kilometres, CTR is home to **230 tigers** and has **the world's highest tiger density** — at 14 tigers per hundred square kilometres.
- Flora ➔ **Dense moist deciduous forests** are found. According to the botanical survey of India, Corbett has **600 species of plants** - trees, shrubs, ferns, grass, climbers, herbs, and bamboo. Sal, Khair, and Sissoo are the most visible trees found in Corbett.
- Fauna ➔ Apart from **tigers**, Corbett also has **leopards**. Other mammals such as **jungle cats**, **barking deer**, **spotted deer**, **sambar deer**, **sloth** etc. are also found there.
- Other Major Protected Areas of Uttarakhand ➔
    o Nanda Devi National Park.
    o Valley of Flowers National Park.
    o Valley of Flowers National Park and Nanda Devi National Park together are a UNESCO World Heritage Site.
    o Rajaji National Park.
    o Gangotri National Park.
    o Govind National Park.

9. Kappaphycus Alvarezii

Why in News?

Centre's Multi-purpose Seaweed Park project promotes cultivation of Exotic Kappaphycus seaweed in TN's coastal villages, which poses threat to coral reefs.

About

- Kappaphycus alvarezii is a **red alga** but, its **actual live colour is green or yellow**.
- Habitat ➔ The seaweed is native to the **Indo-Pacific region**.
- It has been widely introduced and cultivated in **tropical regions** for commercial purposes.
- IUCN Status ➔ The invasive seaweed Kappaphycus is an **IUCN red-listed species**.
- Commercial significance ➔ It is used in the **production of an industrially lucrative polymer** called **Carrageenan**.
    o Carrageenan a substance extracted **from red and purple seaweeds**, which is used as a **thickening** or **emulsifying agent** in food products.
- Threat it poses ➔ The rich coral reefs of Gulf of Mannar Marine National Park and the seagrass beds in Palk Bay Dugong Conservation Reserve have **increasing threat from exotic seaweed Kappaphycus**.
- Threat to Coral reefs ➔ The algae was firmly **attached to the coral colonies** and started **forming a thick gelatinous unbreakable** mat over them, eventually smother and kill corals.
    o Some of the islands in the Gulf of Mannar have been **invaded by Kappaphycus**.
    o The coral reefs of **Valai Island in the Keelakarai group** and **Krusadai Island of Mandapam group** were **dying** due to stress from Kappaphycus invasion.

10. Koalas

Why in News?

Recently, the Australian Government announced a list of 110 'priority species' that it will try to save from extinction over the next 10 years which includes koalas.

About

- Scientific Name ➔ **Phascolarctos cinereus**
- The koala is the only member of the **family Phascolarctidae**.
- Habitat, behavior, and diet ➔ Koalas live in the eucalyptus forests of southeastern and eastern **Australia**. They **rely on the eucalyptus tree** for both habitat and food.
- Characteristics ➔

- o It is a **tree-climbing** animal.
- o It is a **marsupial animal** which means a mammal with a pouch for the development of offspring.
- o Koalas **usually don't drink much water** as they get most of their moisture from these leaves.
- IUCN Status ➔ In February 2022 the status of the koala was changed from **vulnerable to endangered**.

11. Phawngpui National Park

Why in News?

Mount Victoria Babax bird was recently seen for the first time in 25 years in Phawngpui National Park.

About

- Location ➔ Phawngpui National Park is located in **Mizoram**.
- Name ➔ It gets its name from highest peak of Mizroam called as **Phawngpui Peak**.
- The peak is the **highest point (at 2,157m) of the Mizo or Lushai Hills** which are part of the Arakan Mountain range along the India-Myanmar border.

👉 **Mount Victoria Babax bird**

- Bird Count India has ranked the Mount Victoria Babax as the **eighth rarest bird species** in India among the 20 on their list.
- They belong to the **family of singing bird** and they are named after the highest mountain in Chin state of Myanmar (Mount Victoria).
- This species is restricted almost exclusively to the **Arakan Mountains in western Myanmar** and they are also sometimes spotted in **Mizoram** as it shares border with Myanmar.
- Another bird that is found only in the Lushai Hills in Mizoram and the Chin Hills of Myanmar is the **Chin Hills Wren-Babbler** (Spelaeornis oatesi).

12. Graded Response Action Plan

Why in News?

A revised action plan to fight the serious challenge of air pollution in Delhi and the National Capital Region (NCR) has come into force after a sudden dip in air quality in the capital and its neighbouring areas.

About

- The GRAP is a step-by-step plan to **counter Delhi-NCR's deteriorating air quality**.
- It was formulated by the **Environmental Pollution Prevention and Control Authority** (EPCA) jointly with the Delhi government in 2017.
- However, it is an **emergency response mechanism** and is only enforced when air pollution reaches a certain threshold.
- Moreover, the plan is **incremental and adaptable**, which means the preventive measures will be updated and escalated according to changes in the AQI.
- Categories ➔ It has been prepared for implementation **under different Air Quality Index (AQI) categories** namely, Moderate & Poor, Very Poor, Severe, Severe+ and Emergency as per National Air Quality Index.
    - o **'Moderate' to 'poor' category includes measures** like stringent enforcement of PUC checks, prevention of waste burning and regulating polluting industries.
    - o **The 'very poor' category includes measures** like shutting down of diesel generator sets and enhancing parking fees.
    - o **The 'severe' and 'severe plus' categories** include stringent measures like shutting down hot mix plants and stone crushers, intensifying public transport, stopping entry of trucks into Delhi, stopping construction activity and even implementing the odd-even scheme.

13. Indian Bisons

Why in News?

Sri Lanka recently asks India to translocate 6 Indian bisons or gaurs to reintroduce them in the island after three centuries.

About

- Indian Bisons are **one of the largest extant bovines**. It is one of the largest species among the wild cattle, reaching a shoulder **height of up to 220 cm**.
- Habitat ➔ They are found on the **forested hills and grassy areas** of **south to south east Asia**.
- Distribution ➔
  - o There are about **13,000 to 30,000 gaurs** in the world with approximately 85% of the population present in India. It is also **found in Burma and Thailand**.
  - o The Western Ghats in southern India constitute one of the most extensive extant strongholds of gaur, in particular in the **Wayanad – Nagarhole – Mudumalai – Bandipur complex**.
  - o The first-ever population estimation exercise of the Indian gaur carried out in the **Nilgiris Forest Division in February 2020** estimated around 2,000 Indian gaurs to be inhabiting the division.
  - o The gaur is the **State Animal of Goa and Bihar**.
- Conservation ➔
  - o It is a protected species and included in **Schedule I of the Wild Life Protection Act, 1972**.
  - o Listed as "**vulnerable**" in the International Union for Conservation of Nature (IUCN) Red List.
  - o It is listed in CITES **Appendix I**.

👉 **Wildlife or Zoological Diplomacy**

- It means the **translocation and reintroduction of a species**, particularly between neighbouring countries with similar eco-systems. It is considered as a **potent tool** in engaging different nations.
- Examples ➔
- Recently **India translocated cheetahs from Namibia**.
- **American bison herds were supplemented with animals from Canada** after the U.S. herds were almost all wiped out.

14. Secure Himalaya project

Why in News?

The Union Environment ministry in association with the United Nations Development Programme (UNDP) has been implementing 'Secure Himalaya' project to conserve the habitats of snow leopards.

About

- The 'Secure Himalaya' project is funded by the **Global Environment Facility**.
- It supports the government's efforts for **conservation of snow leopard and its habitat** by developing and implementing a **landscape-based approach** for Himalayan ecosystems, and **addresses key issues of habitat degradation**, threatened livelihoods and illegal trade in wildlife.
- It was launched in **2017**.
- Components ➔
  - o **Conservation of key biodiversity areas and their effective management** to secure long-term ecosystem resilience, habitat connectivity and conservation of snow leopard and other endangered species.
  - o **Securing sustainable community livelihoods** and natural resource management in high range Himalayan ecosystems.
  - o **Enhancing enforcement**, **monitoring** and **cooperation** to reduce wildlife crime and related threats.
  - o **Gender Mainstreaming**, **Monitoring**, evaluation and knowledge management.

- Changthang, Ladakh Landscape, Jammu & Kashmir
- Lahaul-Pangi and Kinnaur Landscapes,
- Gangotri-Govind and Darma-Byans Landscapes,
- Khangchendzonga-upper Teesta Valley.

15. Green Crackers

Why in News?

Only green firecrackers will be sold in the Delhi for Diwali, in accordance with the Supreme Court (SC) orders.

About Ayushman cards

- Green crackers are **low-emission crackers**, **free of harmful chemicals** such as sulphur, nitrates, arsenic, magnesium, sodium, lead, and barium, which reduce the emission of up to 30%.
- Emit noise in the range of **100-130 deciBels**.
- Come with a **green logo** and **Quick Response (QR) code** to differentiate from conventional firecrackers.
- The crackers developed by the **Council of Scientific and Industrial Research** (CSIR) falls under three categories:
- SWAS: SWAS is **safe water releaser**, which suppresses the dust released by releasing water vapour in the air. It does not comprise potassium nitrate and sulphur and the particulate dust released will reduce approximately by 30 per cent.
- STAR: STAR is the **safe thermite cracker**, which does not comprise potassium nitrate and sulphur, emits reduced particulate matter disposal and reduced sound intensity.
- SAFAL: SAFAL is **safe minimal aluminium** which has minimum usage of aluminium, and used magnesium instead. It ensures reduction in sound in comparison to traditional crackers.

☞ **Conventional firecrackers:**

- Composed of **charcoal or thermite** in combination with oxidizing agents such as **nitrates or chlorates**, **sulfur agents**, and **coloring agents**.
- Include salts of **strontium**, **sodium**, **barium**, **calcium**, and **copper** as well as **white metals**, which produce more particulate matter (PM).
- Emit sound between **160-200 deciBels**.

16. Northern Giraffe

Why in News?

A recent genealogical study was conducted in Kolkata zoo, for the giraffe herd brought to India by the British.

About Northern Giraffe

- Distribution ➜ **Eastern South Sudan** and **South-Western Ethiopia Kenya and Uganda**.
- Habitat ➜ Giraffes are usually found in **groups** and **inhabit savannahs and woodlands**.
- Food Habit ➜ They mainly eat **seeds**, **leaves** and **fruits**.
- Their food source is **leaves**, **fruits** and **flowers of woody plants**, primarily acacia species, which they browse at heights most other herbivores cannot reach.
- Life-Span ➜ About **23 to 25 years in wild** and 32 to 40 years in captivity
- Threat ➜ **Hunting**, **habitat destruction** and **fragmentation**
- Conservation Status ➜ IUCN Status (**Vulnerable**)

☞ **About the study**

- About **150 years ago**, **British colonialists brought batches** of what they thought were a single species of the northern giraffe to India from their other colonial possessions in Africa.
- These now comprise a captive population of **29 individuals of northern giraffes** across the country.
- A study was recently conducted on these giraffes at **Alipore Zoological Garden in Kolkata**. The researchers confirmed that the giraffes in this facility are most likely "**critically endangered**" **Nubian giraffes** (Giraffa camelopardalis camelopardalis) or **the endangered Rothschild giraffe** (Giraffa camelopardalis rothschildi).

17. Spider Species

Why in News?

Arachnologists from the Centre for Animal Taxonomy and Ecology (CATE), Christ College, Irinjalakuda in Kerala have recently discovered six new species of spiders from across the country.

About

- Afraflacilla miajlarensis ➔ It was discovered in the **Thar desert of Rajasthan**. It belongs to the family of **jumping spiders** (Salticidae). It is characterized by white fine hairs on a black head and black horizontal lines on the abdomen. This spider stays **among dry leaf blades**.
- Afraflacilla kurichiadensis ➔ It was discovered from **Wayanad, Kerala**. It belongs to the family of **jumping spiders** (Salticidae). It is characterized by **red patches** around the eyes and **white hairs** on the abdomen. The bulged first pair of legs are also a special feature of this species. This spider lives in the **moist deciduous forest of Kurichiyad**.
- Siamspinops garoensis ➔ It was discovered in the **Garo hills in Meghalaya**. It belongs to the family of **flat spiders**, Selenopidae. This spider lives in the crevices of rocks on hills and its flat body is suitable for this mode of life.
- Philoponella rostralis ➔ It was discovered in **Kottappara hills near Kothamangalam, Kerala**. The species **lacks a venom gland** and belongs to the family of feather- legged spiders (Uloboridae).
- Oxyopes peetham ➔ It has been discovered in **Thumboormuzhi butterfly garden**, near the **Athirappilly waterfalls, Kerala**. It belongs to the family of **spiny-legged spiders** (Oxyopidae). It is characterized by a yellowish body.
- Oxyopes thumboormuzhiensis ➔ It has been discovered at **Calicut University campus, Kerala**. It belongs to the family of spiny-legged spiders (Oxyopidae). It aims to **signify the locality** where the spiders were spotted.

18. World Green City Award

Why in News?

Hyderabad city won the overall 'World Green City Award 2022' and 'Living Green for Economic Recovery and Inclusive Growth' award at the International Association of Horticulture Producers(AIPH) World Green City Awards 2022 held in Jeju,South Korea.

About

- The Green City Award was instituted by the **International Association of Horticulture Producers**(AIPH).
- Purpose ➔ The award recognises the role of city authorities in **promoting and supporting greater inclusion of nature and plants** in urban environments.
- The awards bring global recognition to the value of plants in **providing solutions for common city problems** and **create an enabling environment** to shape and nurture a strategic shift in city governance/planning.
- Why was Hyderabad given this World Green City Award? ➔
  o The award was given to Hyderabad for its large-scale tree-planting program known as "**Telangana Ku Haritha Haram**" which was carried out from 2015 to 2016. The program aims to **increase the tree cover of the state by about 33%**.
  o The city was also **recognized for its efforts in implementing various initiatives** that rely on the use of nature and plants to create better urban environments.

- o These programs help **fulfil the local aspirations of the people** for improved environmental, social and economic resilience.

19. Forest Conservation Rules

Why in News?

The National Commission for Scheduled Tribes (NCST) has asked the Ministry of Environment, Forest and Climate Change(MoEFCC) to put on hold the Forest Conservation Rules 2022.

About

- The Forest Conservation Rules deal with the **implementation of the Forest Conservation Act (FCA), 1980**.
- They **prescribe the procedure** to be followed for forestland to be **diverted for non-forestry uses** such as road construction, highway development, railway lines, and mining.
- The broad aims of the Forest Conservation Act are ➔
  - o To protect forest and wildlife,
  - o To put brakes on State governments' attempts to hive off forest land for commercial projects and
  - o To increase the area under forests.
- Forest Advisory Committee (FAC) ➔ For forestland **beyond 5 hectares**, **approval** for diverting land must be given <u>by the Central government</u>.
  - o This is via a specially constituted committee, called the **Forest Advisory Committee** (FAC).
  - o Once the FAC is **convinced and approves** (or rejects) a proposal, it is forwarded to the concerned State government where the land is located.
  - o The **concerned State government** then has to **ensure that** provisions of the Forest Right Act, 2006 are **complied with**.
  - o The FAC approval also means that the future users of the land must provide **compensatory land for afforestation** as well as **pay the net present value** (ranging between Rs. 10-15 lakh per hectare.)

☞ Updated rules

- The new rules make a provision for **private parties to cultivate plantations** and **sell them as land to companies** who need to meet compensatory forestation targets.
- This will help India **increase forest cover** as well as solve the problems of the States of not finding land within their jurisdiction for compensatory purposes.
- There is the **absence of wording of what happens to tribals and forest-dwelling communities** whose land would be hived off for developmental work.
- Prior to the updated rules, **state bodies would forward documents to the FAC** that would also include information on the status of whether the forest rights of locals in the area were settled.
- After 2009, the Environment Ministry passed an order mandating that proposals would **not be entertained by the FAC unless**,
  - o There was a letter from the State specifying that the forest rights in the place had been "**settled**" and
  - o The **gram sabha**, or the governing body in villages in the area, had given their **written consent** to the diversion of forest.
- Now, the new Rules say that the **consent of Gram Sabha is not needed**.

☞ National Commission for Scheduled Tribes (NCST)

- NCST was set up in **2004 by amending Article 338** and by inserting a new article **338A** in the Constitution through the 89th Constitution Amendment Act, 2003.
- Objective ➔ To **oversee the implementation of various safeguards** provided to STs under the Constitution or under any other law for time being in force or under any other order to the Government and to evaluate the working of such safeguards.

- Composition ➔ It consists of a **Chairperson**, **a Vice-Chairperson** and **3 other Members** who are appointed by the President by warrant under his hand and seal. At least one member should be a woman.
- Term ➔ The **Chairperson, the Vice-Chairperson** and **the other Members** hold office for a **term of 3 years**. The members are not eligible for appointment for more than two terms.
- Status ➔ The **Chairperson** has been given the **rank of Union Cabinet Minister**, the Vice Chairperson has the rank of a Minister of State and other Members have the rank of Secretary to the Government of India.

20. Mission LiFE

Why in News?

Prime Minister Narendra Modi recently launched Mission LiFE (Lifestyle for Environment), in the presence of the UN Secretary General António Guterres, at the Statue of Unity, Ekta Nagar, Gujarat.

About concept of LIFE

- LIFE stands for LiFE (**Lifestyle for Environment**).
- The concept of LiFE was introduced by the Prime Minister —**at COP26 in Glasgow** on 1 November 2021.
- It aims to nudge individuals and communities to practice a **lifestyle that is synchronous with nature** and does not harm it. Those who practice such a lifestyle are recognised as **Pro Planet People**.

👉 **Mission LIFE**

- Mission LiFE seeks to **translate the vision of LiFE into measurable impact**.
- Aim ➔ It is designed with the objective to mobilize **at least one billion Indians and other global citizen**s to take individual and collective action for protecting and conserving the environment in the **period 2022–28**.
  - Within India, **at least 80%** of all villages and urban local bodies are aimed to become **environment-friendly by 2028**.
- Duration ➔ The mission is a **5-year programme**.
- Strategy ➔ The Mission LiFE aims at following a three-pronged strategy
  - 1) **Nudging individuals** to practise simple yet effective environment-friendly actions in their daily lives (demand),
  - 2) **Enabling industries and markets** to respond swiftly to the changing demand (supply) and
  - 3) **Influence government and industrial policy** to support both sustainable consumption and production (policy).
- Implemented by ➔ The mission will be incubated, curated and piloted by **NITI Aayog** and subsequently implemented by the **Union Ministry of Environment, Forest and Climate Change**.
- Significance ➔ Mission LiFE emboldens the spirit of the **P3 model**, i.e. **Pro Planet People**, as it is premised on the basic principles of '**Lifestyle of the planet**, for the planet and by the planet'.

21. Post-Disaster Needs Assessment

Why in News?

An international framework is now being used to evaluate the financial and social cost of local disasters in eight states in India.

About

- What is it? ➔ Post-Disaster Needs Assessment (PDNA) is a joint product of the **European Union, the World Bank** and **the United Nations Development Group** (UNDP).
- It is a mechanism for **joint assessment and recovery planning** following a disaster.
- Through this, the parties involved seek to **assess the impact of a disaster** and **define a strategy for recovery**.

- It pulls together information on the **socio-economic aspects of damages** and **highlights recovery priorities** from a human recovery perspective.
- The PDNA is envisaged as a country owned and led process, supported by international agencies and other stakeholders.
- PDNA was first adopted in India during the **Kerala floods of 2018**.

☞ **Disaster Recovery Framework**

- In addition to the PDNA, **the EU, UNDG and WB have supported** the development of a Disaster Recovery Framework (DRF).
- It **builds upon the information generated through the PDNA** and it serves as a means for prioritizing, sequencing, planning and implementing recovery.

22. Great Indian Bustards

Why in News?

The recent sightings of the Great Indian Bustard (GIB) in Pakistan's Cholistan desert have raised speculation that the birds are migrating from India's Desert National Park (DNP).

About

- The Great Indian Bustard, found mainly in the **Indian subcontinent**, is the flagship grassland species of India.
- It is one of the **largest flying birds in** the world, and **India's heaviest flying bird**.
- The male bird weighs upto 12-15 kg and female bird up to 5-8 kg.
- Physical description ➜
  - **Black crown** on the forehead contrasting with the pale neck and head.
  - The body is **brownish** and the wings are marked with **black**, **brown** and **grey**.
- Diet ➜ They feed on **grass seeds**, **insects** like grasshoppers and beetles, and sometimes even **small rodents and reptiles**. The species primarily feed on meswak, sewan grass.
- Distribution ➜
  - Its population of about **150 in Rajasthan** accounts for 95% of its total world population.
  - They are mainly in **Jaisalmer district of Rajasthan**, including the **Desert National Park** which is the natural habitat of the species.
  - **Grasslands of Kutch in Gujarat** which is home to second-largest bustard population in India.
  - Arid regions of **Maharashtra** (Solapur), **Karnataka** (Bellary and Haveri) and **Andhra Pradesh** (Kurnool)
  - It is the **State bird of Rajasthan**.
- Conservation status ➜
  - Listed in **Schedule I** of the Indian Wildlife (Protection)Act, 1972,
  - Listed in **Appendix I** of CITES,
  - Listed as **Critically Endangered** on the IUCN Red List.
- Breeding season ➜ The breeding season spans from **March to October**.
- Captive breeding ➜
  - The captive breeding of GIBs was taken up in the DNP through a project executed by the **Dehradun-based Wildlife Institute of India in 2019**.
  - As many as **24 GIB chicks** are being reared in DNP by a team supported by the International Fund for Houbara Conservation of United Arab Emirates.

☞ **Desert National Park**

- Desert National Park (DNP) is located within the **great Thar Desert**
- It is the **2nd largest** national park in India.

- It is a **sandy wonderland** spread across the towns of Jaisalmer and Barmer in Rajasthan.
- The park is a haven for **migratory** and **desert's resident birds**.

23. Allmania multiflora

Why in News?

A new species of the genus Allmania has been recently identified on the granite hillocks of Palakkad, Kerala. The discovery has come 188 years after the genus and the first species were described by botanists.

About

- It is named **Allmania multiflora**.
- Allmania multiflora grows to a **height of about 60 cm** and is only the second species of this genus discovered to date.
  - The first species, **Allmania nodiflora**, was originally published under the genus Celosia as **Celosia nodiflora in 1753**. Specimens found in Ceylon (Sri Lanka) were first described as Allmania nodiflora in 1834.
  - **Shorter tepals and wider gynoecium** (parts of the flower), shorter bracts and in the diameter of the seeds are among the characteristics that distinguishes it from Allmania nodiflora. **Flowering and fruiting occurs from May to September**.
- The species is **quite special** from both the botanical and conservation points of view.
- Allmania multiflora has been so named for having a **higher number of florets within an inflorescence**.
- Allmania multiflora is an **annual herb**, **erect**, with branches arising from the base.
- The stem is **red to violet** at the base and green above.
- Protection Status ➔ IUCN: **Critically Endangered**.

24. Sandalwood Spike Disease

Why in News?

Sandalwood spike disease (SSD) has recently started spreading to private fields where the cultivation of sandalwood has been taken up on a commercial basis.

About

- It is caused by **phytoplasma** — bacterial parasites of plant tissues — which are **transmitted by insect vectors**.
- The disease was first reported in **Kodagu in 1899**.
- It is being classified as "**vulnerable**" by the International Union for Conservation of Nature in 1998.
- Presently, there is no option but to **cut down and remove the infected tree** to prevent the spread of the disease.
- Between **1 and 5%** of sandalwood trees lost every year due to the disease.
- SSD has been one of the major causes for the **decline in sandalwood production** in the country for over a century.

👉 Indian Sandalwood

- Santalum album, commonly known as Indian Sandalwood, is a **dry deciduous forest** species native to **China**, **India**, **Indonesia**, **Australia**, and **the Philippines**.
- This small tropical tree grows to **20m high with red wood** and a variety of dark colors of bark (dark brown, reddish and dark grey).
- Because it is strong and durable, **S. album** is mostly harvested for its timber.
- IUCN Red List Status ➔ **Vulnerable**.
- Major Growing Areas ➔ In India, sandalwood is mostly grown in **Andhra Pradesh**, **Telangana**, **Bihar**, **Gujarat**, **Karnataka**, **Madhya Pradesh**, **Maharashtra**, and **Tamil Nadu**.
- Uses ➔
  - In India, it is also called "**Chandan**" and "**Srigandha**". Sandalwood has a special place in Indian tradition where it is being **used from cradle to cremation**.

- Sandalwood heartwood, which is **close-grained**, is used for **fine furniture and carving**. The heartwood and roots also contain 'sandal oil' which is valued for use in **perfumes**, **incense**, **cosmetics**, **soaps**, and **medicines**. The bark contains **tannin**, which is used for dye.
- Sandalwood **essential oil** has antiseptic, anti-inflammatory, antispasmodic and astringent properties.

25. Zebras

Why in News?

Recently, the Pune Municipal Council has planned to procure five Zebras for its Rajiv Gandhi Zoological Park in Katraj from foreign zoos. The five Zebras to be brought are planned to include two males and Three Females.

About

- Zebras are **equids**, **members of the horse family**.
- There are three different species: **plains**, **mountains**, and **Grevy's zebras**.
- Though Zebras live in **Africa**, each species of zebra has its own home area.
- The **Grevy's zebra** is the **largest**, **weighing from 770 to 990 pounds** (350 to 450 kilograms)
- The Grevy's zebra lives in the **arid grasslands of Ethiopia and northern Kenya**. The Grévy's zebra is considered **endangered in India**.

👉 **Rajiv Gandhi Zoological Park:**

- The Rajiv Gandhi Zoological Park, commonly known as the Rajiv Gandhi Zoo or Katraj Zoo, is **located in Katraj**, **Pune district**, **Maharashtra State**, India.
- It is managed by the Pune Municipal Corporation. The 130-acre (53 ha) zoo is divided into three parts: **an animal orphanage**, **a snake park**, and a zoo, and includes the 42-acre (17 ha) Katraj Lake.
- The zoo has a collection of **reptiles**, **mammals**, and **birds**. Among mammals, the zoo has a white tiger and a male Bengal tiger named Tanaji.

👉 **Central Zoo Authority of India:**

- The Central Zoo Authority (CZA) is the body of the government of India responsible for the **oversight of zoos**.
- It is an **affiliate member** of the **World Association of Zoos and Aquariums** (WAZA).
- The Central Zoo Authority has been constituted under **section 38A of the Wild Life (Protection) Act 1972**.
- Composition ➔ The Authority consists of a **Chairman**, **ten members**, and **a Member Secretary**.

26. Blue Flag Certification

Why in News?

Recently, the Blue Flag certification has been accorded to two new beaches - Minicoy Thundi Beach and Kadmat Beach- both in Lakshadweep.

About

- With the new additions, the **number of beaches certified** under the Blue Flag Certification is **twelve**.
- The **other Indian beaches in the blue list are Shivrajpur**-Gujarat, Ghoghla-Diu, Kasarkod and Padubidri-Karnataka, Kappad-Kerala, Rushikonda- Andhra Pradesh, Golden-Odisha, Radhanagar- Andaman and Nicobar, Kovalam in Tamil Nadu and Eden in Puducherry beaches.
- Thundi Beach ➔ It is one of the most pristine and picturesque beaches in the **Lakshadweep archipelago** where white sand is lined by the **turquoise-blue water of the lagoon**. It is a **paradise for swimmers and tourists** alike.
- Kadmat Beach ➔ It is especially popular with **cruise tourists** who visit Lakshadweep for water sports. It is a **paradise for nature lovers** with its pearl white sand, blue lagoon waters, its moderate climate and friendly locals.

👉 **Blue Flag' certification**

- The Blue Flag programme was **started in France in 1985** and in areas out of **Europe in 2001**. It promotes sustainable development in freshwater and marine areas through four main criteria: **water quality**, **environmental management**, **environmental education and safety**.
- It can be obtained by a **beach**, **marina**, or **sustainable boating tourism operator**, and serves as an **eco-label**.
- The certification is awarded by the Denmark-based non-profit **Foundation for Environmental Education** (**FEE**). It is awarded annually to beaches and marinas in FEE member countries.
- **Forty-eight countries** currently participate in the program, and **5042 beaches**, marinas, and boats have this certification.

27. Emission Gap Report 2022

Why in News?

Recently, the United Nations Environment Programme (UNEP) released 'Emissions Gap Report 2022.

About

- This is the **13th edition** of the Report.
- Title ➔ '**The Closing Window** — **Climate Crisis Calls For Rapid Transformation of Societies'**
- Content ➔ An overview of the **difference between where greenhouse emissions are predicted to be in 2030** and where they should be to avert the worst impacts of climate change.

☞ **Key Findings**

- The **top 7 emitters** (**China**, **the EU27**, **India**, **Indonesia**, **Brazil**, **the Russian Federation** and **the United States of America**) plus international transport accounted for **55%** of global GHG emissions in 2020.
- The global average per capita GHG emissions was **6.3 tonne**s of CO2 equivalent (tCO2e) in 2020.
- World is **falling short of the goals** set forth in the Paris Climate Agreement adopted in 2015, with no credible pathway to 1.5°C in place.

☞ **United Nations Environment Programme**

- It is a leading global environmental authority established on **5th June 1972**.
- It sets the **global environmental agenda**, **promotes sustainable development** within the United Nations system, and serves as an authoritative advocate for global environment protection.
- Headquarters ➔ **Nairobi, Kenya**.
- Major Reports ➔ **Emission Gap Report**, **Adaptation Gap Report**, **Global Environment Outlook**, **Frontiers**, **Invest into Healthy Planet**.
- Major Campaigns ➔ **Beat Pollution**, **UN75**, **World Environment Day**, **Wild for Life**.

28. Floating Trash Barrier

Why in News?

A floating trash barrier (FTB), developed by AlphaMERS Ltd.'s and deployed in eight cities across India to trap trash in water bodies, has won the Cleaning and Restoring India's Water Bodies Challenge.

About

- Floating trash barrier could **address the serious environmental issue** of floating solid waste pollution plaguing India's water bodies.
- The FTB **uses the natural flow of water to bring the trash to the riverbank** where it is deployed and from there the trash is manually or mechanically removed.
- The FTB is deployed in eight cities — **Bengaluru**, **Chennai**, **Puducherry**, **Hyderabad**, **Mysuru**, **Thanjavur**, **Tuticorin** and **Coimbatore**.

- The FTB is said to be **successful** in cleaning up the Cooum in Chennai and the Musi in Hyderabad.
- In **Bengaluru**, it has been deployed in **some storm-water drains**, and Nagawara and Dasarahalli lakes.

👉 **Cleaning and Restoring India's Water Bodies Challenge:**

- Cleaning and Restoring India's Water Bodies Challenge was conducted by the **Office of the Principal Scientific Advisor** (PSA).
- The challenge was conducted by the **Waste to Wealth Mission** — Swachh Bharat Unnat Bharat Mission under the Office of the PSA during November 27, 2020 and February 17, 2021.

29. Innovation Roadmap of the Mission Integrated Biorefineries

Why in News?

India announced launch of "Innovation Roadmap of the Mission Integrated Biorefineries" (IRMIB) at Global Clean Energy Action Forum.

About

- With IRMIB is developed by **co-leads** from **Brazil**, **Canada**, **UK** and **European Commission**. IRMIB aims to fill the void by:
  - o **identifying gaps and challenges** in current biorefining value chains,
  - o prioritising Eight key actions to support the Mission,
  - o guiding the Mission's overall path in achieving its goal.
- **Mission Integrated Biorefineries** (MIB) is the **7th mission** under Mission Innovation (MI) which was launched in April 2022.
- **MI is a global initiative catalyzing a decade of action and investment in research, development and demonstration (RD&D)** to make clean energy affordable, attractive and accessible for all. MI consists of 22 countries and EU. India is a founding member.
- MIB aims at greater international collaboration and financing for Energy RD&D during the next five years.
  - o Goal: To **develop and demonstrate innovative solutions** to accelerate the commercialization of integrated biorefineries.
  - o Target: To replace **10% of fossil-based fuels**, **chemicals** and **materials** with bio-alternatives by 2030.
  - o It **prioritizes eight collaborative actions** organized around 3 Pillars of-
    - ▪ Supporting Research, Development and Demonstration.
    - ▪ Accelerating Pilots and Demonstrations.
    - ▪ Improving Policy and Market Conditions.

Benefits of MIB

- Fill the void by identifying gaps and challenges in current biorefining value chains,
- Providing a strategy framework to policymakers to establish a rising RD&D portfolio,
- Specific financing proposals across the entire spectrum of vital Biorefinery technologies.
- Help in a virtuous cycle of public and private investment
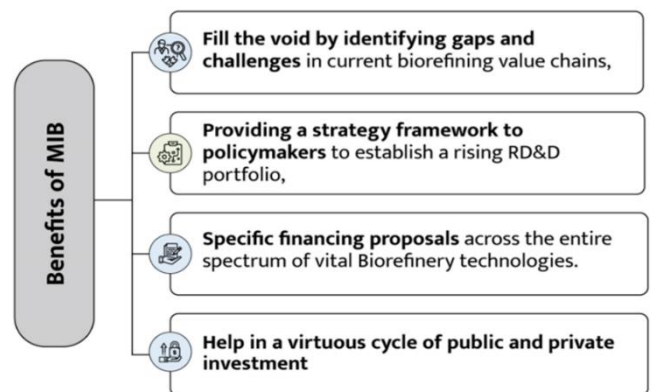
30. World Water Development Report 2022

Why in News?

Recently, The World Water Development Report of 2022 'Groundwater: Making the invisible visible' was released by UNESCO.

About

- It was officially launched by the UNESCO Director- General at the **9th World Water Forum in Dakar, Senegal**.
- It has encapsulated global concern over the **sharp rise in freshwater withdrawal** from streams, lakes, aquifers, and human-made reservoirs leading to water **scarcity** being experienced in different parts of the world.

31. One Water approach

Why in News?

One Water approach, also referred to as Integrated water resources management (IWRM), is an integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability.

About

- It recognizes all urban water supplies as connected resources – **surface water**, **groundwater**, **stormwater**, and **wastewater**.
- Water is **recycled** and reused several times in IWRM.
- It brings all diverse stakeholders together to advance common-ground solutions to **combat water and urban ecology challenges**.
- It is **multi-faceted** approach meaning that our **water-related investments** should provide economic, environmental, and societal returns.

32. Paddy Straw Torrefaction

Why in News?

The Union Environment Ministry announced a ₹50 crore scheme to incentivise industrialists and entrepreneurs to set up paddy straw pelletisation and torrefaction plants.

About

- Torrefaction is the **thermochemical conversion method to produce coal fuel (bio char) from biomass**. It produces a **solid biofuel product** that has superior handling, milling and co-firing capabilities compared to other biomass fuels. Torrefaction is costlier but it can deliver a product whose energy content is much higher and can substitute for more coal in a power plant.
- PELLETISATION – Pelletizing is the process of **compressing or molding a material (rice straw) into the shape of a pellet**.
- **Features of the grant**:
  - Under the scheme, the Centre will fund new pelletisation plants (the usual cost is ₹35 lakh) to a maximum of **₹70 lakh** subject to capacity.
  - Torrefaction plant(usual costs ₹70 lakh), is eligible for **maximum funding of ₹1.4 crores**.
- BENEFITS ➔
  - Paddy straw made into pellets or torrefied can be mixed along with coal in thermal power plants. This **saves coal as well as reduces carbon emissions**
  - Will **reduce straw burning** and improve the AQI in NCR and states like Punjab and Haryana.
  - **Employment generation** and energy security
  - Some alternative methods followed are -
    - **Encourage using bio-decomposer** (a chemical that decomposes the straw into mulch).
    - **Feed to cattle** as fodder.
    - **Paddy straw torrefaction** and pelletisation used for co-firing in thermal power plants.

33. Slender Loris sanctuary

Why in News?

In a first in the country, Tamil Nadu government notified Kaduvur Slender Loris sanctuary under Section 26 (A)(1)(b) of Wildlife (Protection) Act, 1972.

About

- The Kadavur Slender Loris sanctuary is to **cover 11,806 hectares in Karur and Dindigul districts**

- Slender Loris that are **small nocturnal mammals** are arboreal in nature as they spend most of their life on trees.
- The species acts as a biological predator of pests in agricultural crops and benefits farmersSlender Loris has a wide range of ecological roles to play in the terrestrial ecosystem.
- The survival of the species depends on its **habitat improvement**, **conservation efforts** and **mitigation of threats**.
- IUCN status: **Endangered.**

34. Living Planet Report 2022

Why in News?

Recently WWF released its biennial Living Planet report 2022 showing trends in global biodiversity and the health of the plant.

About

- Living Planet Report is **World Wide Fund for Nature's flagship publication**. Prepared in collaboration with the **Zoological Society of London**.
- It is released **every two years since 1988** and it is based on **Living Planet Index** and **ecological footprint calculation**.
- It brings out key findings related to biodiversity, challenges to nature and suggestions to heal nature.

☞ **Major outcomes of the report**

- Population decline in wildlife There has been a **69 % decline** in the wildlife populations of mammals, birds, amphibians, reptiles and fish, across the globe in the last 50 years.
- The **freshwater populations have declined the most**, with an average 83% decline between 1970 and 2018.
- Cycads-an ancient group of seed plants-are the most threatened species,while corals are declining the fastest,followed by amphibians.

India specific study

- The **Himalayan region and the Western Ghats** are some of the **most vulnerable regions** in the country in terms of biodiversity loss, and where increased biodiversity loss is expected in future if temperatures are to increase.
- India has seen a **decline in population of the 17 species** of freshwater turtles in this period.

35. Snow Leopards in Arunachal Pradesh

Why in News?

Forest officials of Arunachal Pradesh are eagerly waiting for the report of its first snow leopard enumeration (गणना) in the state conducted with technical support from the World Wildlife Fund for Nature (WWF).

About

- Protection Status ➔
    o IUCN status: **Vulnerable**
    o It is listed in **Appendix I** of the Convention on International Trade of Endangered Species (CITES).
    o It is listed in **Schedule I** of the Indian Wildlife (Protection) Act 1972.
- Top Predator➔ Snow leopards act as an **indicator of the health of the mountain ecosystem** in which they live, due to their position as the top predator in the food web.
- Habitat➔
    o **Mountainous regions** of central and southern Asia.
    o In India, their geographical range encompasses:
    o **Western Himalayas**: Jammu and Kashmir, Himachal Pradesh.
    o **Eastern Himalayas**: Uttarakhand and Sikkim and Arunachal Pradesh.

- o Snow Leopard capital of the world: **Hemis, Ladakh**.
- o Hemis National Park is the biggest national park in India and also has a good presence of Snow Leopard.

Conservation efforts of India

- **Project Snow Leopard** is a centrally supported program to conserve the species and habitats.
- **SECURE Himalaya** funded by the Global Environment Facility
- India is also party to the **Global Snow Leopard and Ecosystem Protection (GSLEP) Programme** since 2013.
- Snow Leopard is on the **list of 21 critically endangered species** for the recovery programme of the Ministry of Environment Forest & Climate Change.
- **Snow Leopard conservation breeding programme** is undertaken at Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal.

Science and Technology

1. Floods on Mars

Why in News?

China's Zhurong rover that landed on Mars in 2021 has found evidence of major floods that took place billions of years ago by studying underground layers.

About Zhurong rover

- Zhurong named after a **Chinese mythical fire god**, is China's first Mars rover carried by **China's Tianwen-1 spacecraft in 2021**.
- During the mission, Zhurong will explore the **colossal basin of Utopia Planitia on Mars'** northern hemisphere, which was probably formed by an impact early in the planet's history.
- Weighing about **240 kilograms**, the 'Zhurong' rover is **slightly heavier than NASA's Spirit and Opportunity rovers**, but only one-fourth the weight of Perseverance and Curiosity (NASA).
- It is powered by **retractable solar panels** and **fitted with seven primary instruments** — cameras, ground-penetrating radar, a magnetic field detector and a weather station.
- The purpose of the radar is to look for **signs of ancient life** as well as **subsurface water**.

👉 **What did the Zhurong Rover find about Mars?**

- Zhurong Rover studied its landing site – **Utopia Planitia** – vast plains in Mars's northern hemisphere.
- The radar did **not find any evidence of liquid water** down to 80 meters but it did **detect two horizontal layers** with interesting patterns. Scientists think these layers may have been created due to flooding.
- For instance, **the older, deeper and thicker layer** that is between 30 and 80 metres underground was probably **formed by rapid flooding three billion years ago**.
- The **upper layer** (between 10 and 30 metres in depth) could have been created by another flood some 1.6 billion years ago when there was lots of glacial activity.
- Note: Previous Mars exploration missions also indicated that there was **once water on the planet's surface**, as well as **massive floods**.

2. Enceladus Ocean

Why in News?

Recently. scientists discovered evidence for life in one of the moons of Saturn.

About

- Enceladus is **one of the moons of Saturn**.
- It is discovered that **beneath its icy surface are oceans**.
- It is rich in **dissolved phosphorus**, an essential ingredient for life.
- The space craft **Cassini**, which orbited Saturn for nearly 13 years, discovered Enceladus's **subsurface liquid water**.
- From the cracks of moon's icy surface, **plumes of ice grains** and **water vapour erupted into space**.
- The plume contains almost all the basic requirements of life.
- Phosphorus in the **form of phosphates** is also vital for all life on Earth.
  - Phosphorus is used **for the creation of DNA and RNA**, **energy-carrying molecules**, **cell membranes**, **bones and teeth** in people and animals, and even the sea's microbiome of plankton.
- But, phosphorus is **yet to be identified** as its availability in the ocean beneath the moon's icy crust.
- By Cassini, scientists predicted that phosphate minerals would be **unusually soluble there**.

3. Council of Scientific & Industrial Research (CSIR)

Council of Scientific and Industrial Research (CSIR) celebrated its 81st Foundation Day.

About

- Established ➔ **September 1942**.
- CSIR is the **largest research and development** (R&D) organisation in India. CSIR has a **pan-India presence** and has a **dynamic network** of 37 national laboratories, 39 outreach centres, 3 Innovation Complexes and 5 units.
- Headquarters ➔ **New Delhi**.
- Funded by ➔ CSIR is **funded by the Ministry of Science and Technology** and it operates as an **autonomous body** through the Societies Registration Act, 1860.
- CSIR covers a **wide spectrum of streams** – from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology.
- It provides **significant technological intervention** in many areas with regard to societal efforts which include the environment, health, drinking water, food, housing, energy, and farm and non-farm sectors.
- Organisational Structure ➔
    - President: **Prime Minister of India** (Ex-officio)
    - Vice President: **Union Minister of Science and Technology** (Ex-officio)
    - Governing Body: The **Director-General** is the head of the governing body.
    - CSIR Advisory Board: **15-member body** composed of prominent members from respective fields of science and technology. Its function is to provide science and technology input to the governing body.
- Objectives ➔ The objectives of the Council are **scientific and industrial/applied research** of national importance.

4. Nobel Prize in Medicine or Physiology, 2022

Why in News?

Swedish scientist Svante Paabo has been awarded the Nobel Prize for Physiology for the year 2022 "for his discoveries concerning the genomes of extinct hominins and human evolution".

About

- Svante Pääbo has spearheaded the development of **new techniques** that allowed researchers **to compare the genome of modern humans and that of other hominins** — the Neanderthals and Denisovans.
- Found the relation between modern humans and Neanderthals ➔ He pieced together the **genome sequence of the Neanderthal**, **modern human's cousin species** that went extinct about 30,000 years ago. His research helped to establish that modern humans and Neanderthals **share a common ancestor** that lived some 600,000 years ago.
- Discovered Denisovans ➔ During this process, he also discovered the existence of an **unknown sub-species** of the human family, now called **Denisovans**, who lived around the same time as the Neanderthals.
    - His research shows that the ancestors of modern humans, Neanderthals and Denisovans **co-existed for about 20,000 years**, during which they not only interacted with each other but **also inter-bred**.
    - **For instance**, he identified a skeleton of a human whose father was a Neanderthal and the mother a Denisovan.
- Found new methodology to extract DNA samples from very old remains ➔ He is credited with developing **new and innovative methodologies** to **extract 'clean' DNA from human fossils tens of thousands of years old** and **reading the genetic information** contained therein.
    - His methodologies provided the **essential breakthrough** for his work on the comparison of Neanderthal genomes with the modern man

5. Lassa fever

Recently published study has found that climate change will aid the spread of Lassa fever to the central and eastern parts of the continent in the next 50 years.

About

- It is a **zoonotic disease** endemic to parts of west Africa.
- Causes ➔ It is caused by the **Lassa virus**, a member of the **Arenaviridae family**.
- Transmission ➔ It's transmitted through the **urine and droppings of infected multimammate rats** found in most tropical and subtropical countries in Africa.
  - They are able to **contaminate anything** they come in contact with.
  - The Lassa virus spreads through **human to human contact** with tissue, blood, body fluids, secretions or excretions.
- Fatality rate ➔ The fatality rate for hospitalised patients is generally **high and can reach 80 per cent at times**.
- Vaccines and Treatment ➔ There is currently **no vaccine** approved to prevent the disease.
  - **Antiviral drug ribavirin** is often used to treat Lassa fever although the usage is not a licensed treatment.
  - Other procedures used are **supportive care** including hydration, oxygenation, and treatment of specific complications arising due to the disease. Preventive vaccines are currently under research and development.

6. Alzheimer Disease

Why in News?

Researchers have discovered a drug named Lecanemab that reduces cognitive decline in patients with early Alzheimer's, making it one of the first neuroprotective treatments for the disease.

About

- It is a **neurological disorder** which causes brain cells to degenerate and die. This leads to **loss of memory**, problems with words in speaking or writing, poor judgment, changes in mood and personality, confusion with time or place, etc.
- At the first stage, these symptoms are mild but they become **more severe with time**.
- Alzheimer's is the **most common cause of dementia** among older adults.
- Alzheimer's disease is thought to be caused by the **abnormal build-up of proteins in** and **around brain cells**. One of the proteins involved is called amyloid, deposits of which form plaques around brain cells and the other protein is called tau.
  - Tau is a **protein** that when it occurs in tangled formations in the brain of Alzheimer patients, disrupts the ability of neurons to communicate with one another in the brain.
- Alzheimer's is an **incurable disease**, as the death of brain cells **cannot be reversed**.
- **Women have a higher risk** of having Alzheimer's disease than men.
- Treatment ➔ There is **currently no known cure** for Alzheimer's disease. Treatment addresses several areas:
  - Helping people maintain brain health.
  - Managing behavioural symptoms.
  - Slowing or delaying symptoms of the disease.

7. ISRO's Mangalyaan Mission

Why in News?

Recently, the ISRO confirmed that the Mars Orbiter craft has lost communication with ground station, it's non-recoverable and with this the Mangalyaan mission has attained end-of-life.

About

- Background ➔ The Mars Orbiter Mission (MOM) or Mangalyaan is a space probe launched **by the Indian Space Research Organization in 2013**.
- Mangalyaan was **India's first** interplanetary mission.
- The **indigenously-built space probe** has been in Martian orbit since 2014.
- The mission made **India the first Asian country** and **the fourth in the world** after Roscosmos, NASA, and the European Space Agency, to get to the planet.
    - Objective of Mangalyaan ➔
    - India's Mangalyaan mission is aimed at **studying Martian atmosphere**.
    - Its objective is **to explore Martian surface features**, **mineralogy**, **morphology** and **atmosphere** using indigenous scientific instruments.
    - A crucial objective of MOM was to **develop technologies** required in planning, designing, management and operations of an interplanetary mission.
- Rocket used ➔ MOM was launched aboard **PSLV C-25** (an XL version of the PSLV).
- Cost of Mangalyaan ➔ ISRO spent **$75 million** to launch the mission, making it the least-expensive Mars mission to date.

8. Nobel Prize in Physics

Why in News?

Recently, the Nobel Prize in Physics for 2022 was awarded to Alain Aspect, John F. Clauser and Anton Zeilinger for their work on quantum mechanics.

About

- The 2022 Nobel Prize in Physics has been awarded "**for experiments with entangled photons, establishing the violation of Bell inequalities, and pioneering quantum information science**."

☞ **Individual Contributions**

- John Clauser ➔ He built an **apparatus** that **emitted two entangled photons at a time**, each towards a filter that tested their polarisation.
- Alain Aspect ➔
    - He developed a **setup to close an important loophole**.
    - He was able to **switch the measurement settings** after an entangled pair had left its source, so the setting that existed when they were emitted could **not affect the result**.
- Anton Zeilinger ➔
    - He researched **entangled quantum states**.
    - His area of research has demonstrated a phenomenon called **quantum teleportation**, which makes it possible to transfer a quantum state from one particle to one at a distance.

☞ **Quantum mechanics**

- Quantum mechanics is a **fundamental theory in physics** that provides a description of the physical properties of nature at the scale of atoms and subatomic particles.
- It is the **foundation of all quantum physics** including quantum chemistry, quantum field theory, quantum technology, and quantum information science.

9. Nobel Prize in Chemistry

Why in News?

Recently, the Nobel Prize in chemistry for 2022 was awarded to Carolyn R. Bertozzi, Morten Meldal and K. Barry Sharpless. The three have been awarded for their work in 'click chemistry'.

About

- Barry Sharpless is the originator of the concept of '**Click Chemistry'**. The name '**click** 'has been taken **from the click sound** that airline seat belts make when they are fastened.
- The idea is that while trying to produce any particular compound or a complex molecule, one **must look for starting molecules** that **easily react with each other**.
- In other words, scientists have to **look for molecules that easily fit into each other**, or 'click' with each other. It makes the resultant chemical reaction more efficient.
- The reacting molecules should be in a **made-for-each-other kind of situation** for this particular reaction, so that the reaction was irreversible and 100% efficiency was achieved
- This click approach emphasised the need to **replicate nature's efficiency**, **not its processes**, **or even products**.

☞ **Applications of click chemistry**

- The **pharmaceutical industry uses a lot of naturally occurring** but industrially synthesised molecules. Every kilogram of a drug produced results in the generation of nearly **25-100 kg** of chemical waste. This can be **reduced by click chemistry**.
- For instance, **Sharpless discovered** that the **use of copper as a catalyst** eliminated all the by-products to produce a nitrogen-containing cyclic compound and ensured only the desired chemical was produced.
- Click' Chemistry could **work in the chemical processes** happening in the living cells as well. This has shown the **promise of treating advanced cancer**. Cancer drugs based on this approach are now undergoing clinical trials.

10. Vyom Mitra

Why in News?

Recently, the humanoid "Vyommitra" was designed and developed by the Indian Space Research Organisation (ISRO).

About

- Meaning ➔ It is the '**female' AI-enabled robot astronaut**. It is a half-humanoid lacking lower limbs.
- Characteristics ➔ It has been **designed to resemble a human** with facial expressions and speech and sight capabilities.
- Development ➔ **IISU** was responsible for the design, development, and integration of the robot, while **ISRO centre Vikram Sarabhai Space Centre** (**VSSC**) at Thumba developed its fingers.
- Significance ➔
- To **fly aboard unmanned test missions** ahead of the Gaganyaan human space-flight mission.
- ISRO Inertial Systems Unit (IISU) has successfully **integrated it with a computer 'brain'** which enables it to '**read' control panels** aboard the unmanned test flights and communicate with the ISRO ground stations.

☞ **Gaganyaan**
- ISRO's Gaganyaan is **India's first manned space mission**.
- The Gaganyaan programme would demonstrate human spaceflight by sending a crew of **three astronauts to the 400-km Low Earth Orbit** (LEO) and bringing them back safely.
- As per the mandate of Gaganyaan, **two unmanned missions** will be **undertaken prior** to the manned mission.

11. Everything app or a super app

Why in News?

Elon Musk is thinking about creating an "everything app. According to him, buying Twitter is an accelerant to creating X, the everything app.

About

- The concept of an everything app, often referred to as a "super app," is **massively popular in Asia** and tech companies across the world have tried to replicate it.

- A super app has been described as the **Swiss army knife of mobile apps**, offering a suite of services for users such as messaging, social networking, peer-to-peer payments and e-commerce shopping.

☞ **Some examples of super apps**

- These mega apps are **widely used in Asia** because mobile is the main form of access to the internet for many people in the region. For example,
    - a) **WeChat of China** ➜ Users of this app can hail a car or taxi, send money to friends and family or make payments at stores, use it as an electronic identification system, etc.
    - b) **Grab app of Southeast Asia** ➜ It offers food delivery, ride-hailing, on-demand package delivery and financial services and investing.

☞ **Some examples of super apps in India**

- **Paytm** ➜ It has brought together services like payments, ticket bookings, games, online shopping, banking, consumer finance, etc into one app.
- **PhonePe** ➜ It has tied up with companies such as Ola Cabs, Swiggy, Grofers, AJio, Decathlon, Delhi Metro, booking.com, etc to offer these services from within its own app.
- Currently, **Reliance Industries**, **under its Jio umbrella**, is consolidating various services and offerings.

12. Cyber-Knife

Why in News?

PM Modi recently lays the foundation stone of various healthcare facilities in Civil Hospital Asarwa, Ahmedabad. The new Civil Hospital Asarwa will be the first government hospital in the country where state-of-the-art technology like Cyber-Knife will be available.

About

- The CyberKnife System is a **non-invasive treatment** for cancerous and non-cancerous tumors and other conditions where radiation therapy is indicated.
- CyberKnife treatments are typically **performed in 1 to 5 sessions**.
- It is **used to treat conditions** throughout the body, including the prostate, lung, brain, spine, head and neck, liver, pancreas and kidney.
- It can be an **alternative to surgery or for patients** who have inoperable or surgically complex tumors.
- It offers several **advantages** to patients, including **rapid relief from pain** and **other symptoms**.

13. Next-Gen Launch Vehicle (NGLV)

Why in News?

The Indian Space Research Organisation (ISRO) is developing a Next-Gen Launch Vehicle (NGLV), which will replace operational systems like the Polar Satellite Launch Vehicle (PSLV).

About

- In NGLV, ISRO is looking at a **cost-efficient**, **three-stage to-orbit**, **a reusable heavy-lift vehicle** with a payload capability of ten tonnes to Geostationary Transfer Orbit (GTO).
- Propulsion ➜ NGLV will have **semi-cryogenic propulsion** (refined kerosene as fuel with liquid oxygen (LOX) as oxidiser) for the booster stages which is cheaper and more efficient.
- NGLV will feature a **simple**, **robust design** which allows bulk manufacturing, modularity in systems, sub-systems and stages and minimal turnaround time.
- Potential applications ➜ The uses of NGLVs will be in the areas of **launching communication satellites**, **deep space missions**, **future human spaceflight** and **cargo missions**.

- What needs to be done to improve the NGLVs? ➜ It is **important to develop a "business model"** for NGLV. This will include launching commercial satellites and national missions as well as ensuring industry participation from the start.

14. Detection of Barium in the Exoplanet Atmospheres

Why in News?

Recently, in a new study, scientists have detected barium in the upper atmosphere of two giant exoplanets for the first time.

About Findings of the Study

- The exoplanets are two ultra-hot Jupiters — **WASP-76b and WASP-121b** — which orbit their host stars WASP 76 and WASP 121.
- The former is about **640 light-years away** from the Earth and the latter around **900 light-years away**. Both WASP-76b and WASP-121b **complete one orbit in two days**.
- Surface temperatures in these bodies reach as **high as 1,000 degrees Celsius**. These bodies have unique features owing to their **high temperatures**. For instance, WASP-76b experiences **iron rain**.
- The presence of **hydrogen**, **lithium**, **sodium**, **magnesium**, **calcium**, **vanadium**, **chromium**, **manganese** and iron in the atmosphere of the WASP-76 b has also been confirmed in addition to barium.
- In WASP 121b, they confirmed the presence of **lithium**, **sodium**, **magnesium**, **calcium**, **vanadium**, **chromium**, **manganese**, **iron** and **nickel**.
- Additionally, the scientists found elements such as **cobalt and strontium**. They also found indications of titanium in the exoplanet.

👉 Barium

- Barium, which is **slightly harder than lead**, has a silvery white luster when freshly cut.
- It **readily oxidizes** when exposed to air and must be protected from oxygen during storage.
- In nature it is always found **combined with other elements**.
- It is **very light** and **its density is half of that of iron**.
- Applications ➜
  - Barium is often used for **spark-plug electrodes** and **in vacuum tubes** as a drying and oxygen-removing agent. As well as **fluorescent lamps**: impure barium sulfide phosphorescence after exposure to light.
  - Its compounds are used by oil and gas industries **to make drilling mud**. Drilling mud simplifies drilling through rocks by lubricating the drill.
  - Barium compounds are also used to **make paint**, **bricks**, **tiles**, **glass**, and **rubber**.
  - Barium nitrate and chlorate give **fireworks a green colour**.

15. WISER programme

Why in News?

The first 11 awardees of the Women Involvement in Science and Engineering Research (WISER) programme were recently felicitated.

About

- It was launched by **Indo-German Science & Technology Centre**(IGSTC).
- Launched in ➜ **2021**.
- Purpose ➜ It is a first-of-its-kind programme to **promote women in the field of research and development** through lateral entry.
- Features ➜

- The program will support women scientists holding **regular/long-term research positions** in academia or research institutes/industry.
- The involvement in the program will be possible **through lateral entry**. There is **neither requirement for a break-in-career nor any age limit**, and it will enable easy participation.
- Financial Support ➔ IGSTC is going to support the awardees with a maximum amounting to **Rs. 39 Lakh from the Indian side** & **€48000 from the German side**. The WISER program offers 20 awards per year.

16. LEDs

Why in News?

Scientists have developed a material through which we can move towards bright, stable and affordable light-emitting diodes(LEDs).

About

- LED is a **semiconductor device** that emits infrared or visible light when charged with an electric current.
- **Cost-efficient** and **bright light-emitting diodes**(LEDs) are commonly desired for general light sources. However, attaining desired stability and brightness of LEDs has been challenging for scientists.

👉 **What has been developed now?**

- Scientists at the Center for Nano and Soft Matter Sciences(**CeNS**), an autonomous research institute under the Department of Science and Technology(DST) found that **simple plasma treatment of inorganic material of cesium lead halide nanocrystals** can lead to an enhanced stabilization of many folds showing the promise of bright and stable LEDs.
- Note: Plasma treatment induces the **cross-linking of the organic molecules**, **oleylamine**, **present on the surface of the nanocrystals**. This creates a **stronger network of ligands**, providing better encapsulation and higher PL intensity.

17. Chandrayaan 3 (C3)

Why in News?

The Chandrayaan-3 mission is expected to be launched in August 2023 by Indian Space Research Organisation (ISRO).

About

- Chandrayaan 3 spacecraft is the **3rd lunar exploration expedition**, outlined by the Indian Space Research Organisation (ISRO).
- ISRO planned this spacecraft to exhibit **India's soft-landing proficiency** on a stellar body.
- It will only consist of a **rover and lander** and will **communicate to the earth** via an orbiter from Chandrayaan 2.
- India aims to **examine the Moon's surface**, especially areas that have not been receiving sunlight in some billion years.
- Scientists and astronomers are suspecting the **presence of ice and abundant mineral stocks** in these darker parts of the lunar surface.
- In addition, this exploration will not limit to the surface but aim to **study the sub-surface and exosphere**.
- The rover will study the surface by **taking images at a distance of 100km** from the lunar orbit.
- Design ➔ The lander of ISRO's Chandrayaan-3 will be **powered by 4 throttle-able engines**.
  - In addition, it will be endowed with a **Laser Doppler Velocimeter** (LDV).

18. Sampurnanand Telescope (ST)

Why in News?

The Governor of Uttarakhand recently highlighted the need for discussing future possibilities of the 104 cm Sampurnanand Telescope (ST), at a workshop organised to commemorate the completion of 50 years of successful operations of the telescope.

About

- What is it? ➔ It is a **world-class telescope** located near **Nainital**.
- The telescope at **Manora Peak** was established in 1972 when ARIES was known as the **UP State Observatory** (UPSO).
- It has been extensively used for **optical observations of comets**, **occultation by planets and asteroids**, **star-forming regions** and **star clusters**, variable stars, transients, active galactic nuclei, etc.
- Some of the breakthrough science results contributed by the telescope include the **discovery of new rings** around Saturn and the rings of Uranus.
- The instrumentation and science capabilities of ST have paved the way for setting up **National and International facilities by ARIES**, such as the 3.6m DOT and the 4 meter International Liquid Mirror Telescope at Devasthal.

19. Solar Eclipse

Why in News?

India and a few other places in the world will witness a partial solar eclipse on October 25, 2022.

About

- An eclipse happens when the moon while orbiting the Earth, **comes in between the sun and the Earth**, due to which the moon blocks the sun's light from reaching the Earth, causing an eclipse of the sun or a solar eclipse.
- There are three types of eclipses.
  - Total solar eclipse ➔ This happens when the sun, moon and Earth are in a **direct line**. The dark silhouette of the Moon **completely covers the intense bright light of the Sun**. Only the much fainter solar corona is visible during a total eclipse which is known as a **Totality**.
  - Partial solar eclipse ➔ This happens when the sun, moon and Earth are **not exactly lined up**. The shadow of the moon appears on a **small part** of the sun.
  - Annular solar eclipse ➔ This happens when the moon is **farthest from the Earth**, which is why it seems smaller. In this type of an eclipse, the moon does **not block the sun completely**, but looks like a "**dark disk on top of a larger sun-colored disk**" forming a "**ring of fire**".

20. ISRO's heaviest rocket LVM3-M2

Why in News?

Indian Space Research Organisation (ISRO)'s heaviest rocket LVM3-M2 lifts-off from a launch pad at the Satish Dhawan Space Centre, in Sriharikota, recently. The rocket successfully placed 36 broadband communication satellites of OneWeb, on ISRO's maiden commercial mission.

About

- This mission is being undertaken as **part of the commercial arrangement** between New Space India Limited (**NSIL**) and m**/s Network Access Associates Limited** (m/s OneWeb Ltd), a U.K. based company.
- OneWeb is a **joint venture** between India's Bharti Enterprises and the U.K. government.
- This is OneWeb's 14th launch, bringing the **constellation to 462 satellites**. This launch represents more than **70% of its planned 648 Low Earth Orbit (LEO) satellite fleet** that will deliver high-speed, low-latency connectivity worldwide.
- The 43.5 metre LVM3 weighing around **644 tonne carried 36 satellites weighing 5,796 kg** or **about 5.7 tonne**.

👉 **Launch Vehicle Mark III (LVM3) -M2:**

- The Indian Space Research Organisation (ISRO) has **renamed the Geosynchronous Satellite Launch Vehicle (GSLV) Mark -III** as Launch Vehicle Mark-III, mainly to identify its task of placing satellites into a variety of orbits.

- Launch Vehicle Mark III (LVM3) -M2 is the **dedicated commercial satellite mission of New Space India Limited (NSIL**), a Central Public Sector Enterprise (CPSE) under the Department of Space, Government of India.
- The LVM3 rocket (earlier called the Geosynchronous Launch Vehicle Mark III or GSLV-MK3) can carry up to **8 tonnes into low earth orbit** (LEO-up to 1,200 km above the Earth).
- The rocket is a **three-stage launch vehicle** consisting of two solid propellant S200 strap-ons on its sides and core stage comprising L110 liquid stage and C25 cryogenic stage.
- The **PSLV is much lighter** and can carry between 1.4 and 1.75-tonne payloads.

21. Overhauser Magnetometer

Why in News?

Indian scientists have recently developed an Overhauser Magnetometer.

About

- Overhauser(OVH) Magnetometers are used for **performing geomagnetic field measurements**.
- They are known for their **higher accuracy**, **higher sensitivity**, and **efficient power consumption** and hence find applications in all magnetic observatories worldwide as well as in international space programs.
- It has so far been imported for such purposes in India.

☞ **What has been developed now?**

- **Indian Institute of Geomagnetism** (**IIG**) has developed **India's first indigenous** Overhauser (OVH) Magnetometer.
- It has been installed at **Alibag Magnetic Observatory(MO), Maharashtra**.
- Significance: This will help in **reducing the cost of sampling and sensing experiments** essential for geomagnetic sampling.

22. Quantum Network

Why in News?

The Indian Institute of Technology, Madras has joined the IBM Quantum Network, and has become the first Indian institute to do so.

About

- This network aims to **advance quantum computing** (computing based on principles of quantum theory) **skills development and research** in India.
- Quantum networks also known as the **quantum internet** is an internet network that makes use of the **properties of photons** to transmit data.
- It allows quantum devices to **exchange information** within a particular environment that harnesses the principles of quantum mechanics.

Geography

1. Maheshwar Dam: Narmada River

Why in News?

Recently, The Madhya Pradesh government has canceled all contracts with Maheshwar Hydroelectric Project almost three decades after it agreed to purchase power from it.

About Narmada River

- Narmada is the **largest west flowing river** of the peninsular region flowing through a **rift valley** between the Vindhya Range on the north and the Satpura Range on the south.
- Narmada is flowing through the area where the land is not sloping towards the west from central India, but it is **flowing west because of the rift valleys only**.
- It rises from **Maikala range near Amarkantak** in Madhya Pradesh.
- It drains a large area in **Madhya Pradesh** besides some areas in the states of **Maharashtra and Gujarat**.
- The river near Jabalpur (Madhya Pradesh) forms the **DhuanDhar Falls**.
- There are **several islands** in the estuary of Narmada of which Aliabet is the largest.
- Major Tributaries ➜ **Hiran**, **Orsang**, **the Barna** and **the Kolar**.
- Hydro Power Projects ➜ **Indira Sagar**, **Sardar Sarova**, **Maheshwar** etc.
- Narmada Bachao Andolan (NBA ➜
    - It is an **Indian social movement** spearheaded by native tribes (adivasis), farmers, environmentalists and human rights activists **against a number of large dam projects across the Narmada River**.
    - **Sardar Sarovar Dam in Gujarat** is one of the biggest dams on the river and was one of the first focal points of the movement.
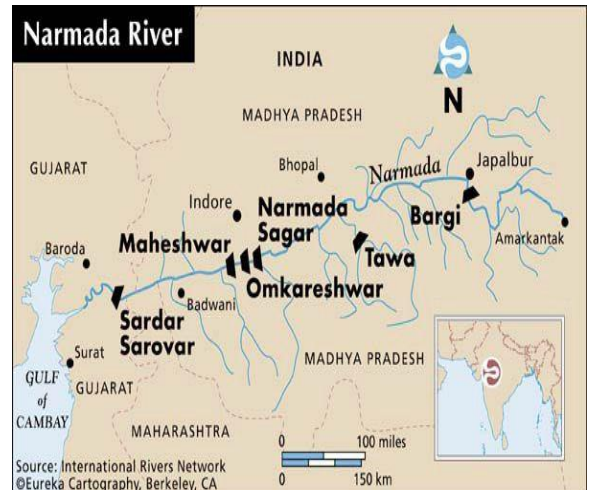
2. Hurricane Storm Surge

Why in News?

Hurricane Ian, one of the worst storms ever to hit the United States, brought a "500-year flood event" to Florida, devastating coastal cities, inundating homes and businesses and leaving island communities cut off.

About Storm Surge

- Storm surge is an **abnormal rise of water generated by a storm**, over and above the predicted astronomical tides.
- As a hurricane reaches the coast, it **pushes a huge volume of ocean water ashore**. This is called **storm surge**.
- This surge appears as a **gradual rise in the water level** as the storm approaches.
- Water level heights during a hurricane can **reach 20 feet** or **more above normal sea level**.
- With powerful waves on top of it, a hurricane's storm surge **can cause catastrophic damage**.
- Factors determining the height of storm surge ➜ Storm surge begins over the **open ocean**.
    - The **strong winds** of a hurricane push the ocean waters around and cause water to pile up under the storm.
    - The **low air pressure** of the storm also plays a small role in lifting the water level.
    - The height and extent of this pile of water depend on the **strength and size of the hurricane**.
    - As this pile of water moves toward the coast, **other factors can change** its height and extent.

- o The **depth of the sea floo**r is a factor. If a coastal area has a **sea floor that gently slopes** away from the coastline, it's more likely to see a higher storm surge than an area with a steeper drop-off.
  - o The **shape of the coastline** can also shape the surge. When storm surge enters a bay or river, the geography of the land can act as a **funnel**, sending the water even higher.
  - o **Ocean tides** can also strengthen or weaken the impact of storm surge.
- Impacts ➔ At high tide, the water is already at an elevated height. If landfall happens at high tide, the storm surge will **cause even higher water levels and bring more water further inland**.
  - o **Sea level rise** is another growing concern that influences storm surge.
  - o When a hurricane arrives, the higher ocean means storm surge **can bring water further inland, to a more dangerous and widespread effect**.

3. Bosnia

Why in News?

Bosnia's presidential and parliamentary elections were held recently amid its worst political crisis since the end of the 1992-95 war.

About

- Bosnia and Herzegovina is country situated in the **western Balkan Peninsula of Europe**.
- The capital of the country is **Sarajevo**.
- It has borders with **Croatia** (at the Southwest and the largest part of the North), **Serbia** (at the Northeast) and **Montenegro** (at the Southeast).

4. Burkina Faso

Why in News?

Burkina Faso witnesses second coup of the year.

About

- Burkina Faso is a **landlocked country in West Africa**, bordered by **Mali** to the northwest, **Niger** to the northeast, **Benin** to the southeast, **Togo and Ghana** to the south, and **the Ivory Coast** to the southwest.
- It was previously called **Republic of Upper Volta**.
- Its capital and largest city is **Ouagadougou**.
- The country owes its former name of **Upper Volta to three rivers** which cross it: the **Black Volta** (or Mouhoun), **the White Volta (Nakambé)** and **the Red Volta** (Nazinon).
-

5. Nord Stream Pipeline

Why in News?

The two Nord Stream gas pipelines linking Russia and Europe have been hit by unexplained leaks. There have been four cases of leaks in the pipelines.

About

- Nord Stream is the **1,200 km subsea export gas pipeline** that runs under the Baltic Sea carrying gas from **Russia to Europe**.
- Source ➔ Bovanenkovo oil and gas condensate deposit in **Western Siberia**.
- The Nord Stream twin pipeline system **through the Baltic Sea runs** from **Vyborg**, **Russia to Lubmin near Greifswald**, **Germany**.
  - o The pipelines were built and are operated by Nord Stream AG.
- The Nord Stream route **crosses the Exclusive Economic Zones of Russia**, **Finland**, **Sweden**, **Denmark** and **Germany**, as well as the territorial waters of Russia, Denmark, and Germany.
  - o **Nord Stream 1**, completed in 2011 (From Vyborg in Leningrad to Lubmin near Greifswald, Germany).
  - o **Nord Stream 2**, completed in September 2021 (From Ust-Luga in Leningrad to Lubmin).

Nord Stream pipelines from Russia

Source: Gazprom

6. Sukapaika River

Why in News?

NGT has directed the state government of Odisha to revive Sukapaika River within 6 months.

About

- Sukapaika is one of the several **distributaries of the mighty Mahanadi river** in Odisha.
- It branches away from the **Mahanadi at Ayatpur village in Cuttack district** and flows for about 40 kilometers (km) before **rejoining its parent river at Tarapur** in the same district.
- It covers three blocks such as **Cuttack Sada**r, **Raghunathpur** and **Nichintakoili of Cuttack**.
- Sukapaika river is an **important system** of the Mahanadi to control floodwater and maintain the flow in the river as well as the Bay of Bengal.

7. Kerch bridge

Why in News?

The road-and-rail bridge linking Russia and the Crimean peninsula was damaged in a powerful blast recently, hitting a crucial supply route for Russian forces in Ukraine.

About

- The 19-km (12-mile) Crimea Bridge **over the Kerch Strait** is the only direct link between the transport network of Russia and the Crimean peninsula, which **Moscow annexed from Ukraine in 2014**.
- The bridge is **crucial for the supply of fuel**, **food** and **other products to Crimea**, where the port of Sevastopol is the historic home base of Russia's Black Sea Fleet.

☞ **Kerch Strait**

- The Kerch Strait is a crucial part of the **regional grain trade connecting the Azov sea with the Black Sea**.

8. Galapagos Islands

Why in News?

According to a new study, the cold, eastward equatorial ocean current has been gaining strength for decades. This is of great significant because the Galápagos Islands are protected from global warming in the Pacific Ocean Region by this cold, eastward equatorial ocean current.

About

- The Galapagos Islands are a **part of Ecuador**. These are located in the **Pacific Ocean** around 1,000 km away from the South American continent.
- In **1978**, the islands became **UNESCO's first World Heritage Site**. It is described by the UNESCO World Heritage Convention as a "**living museum and showcase of evolution**."
- The islands contain **aquatic species** such as **manta rays and shark**s which have been endangered by commercial fishing.
- Galápagos is home to the critically endangered — **Galápagos penguin**, **Galápagos fur seal** and **Galápagos sea lion**.
- Also, the **giant tortoises** found here – '**Galápagos'** in old Spanish – give the islands its name.

9. Matihani-Sambho bridge

Why in News?

The Government of India has cleared a crucial bridge project on the River Ganga in Begusarai.

About

- Location ➔ The bridge is being built on the **River Ganga in Begusarai** (Bihar).
- It will **link the riverine areas of Matihani and Sambho in Begusarai** and would also connect NH-31 (Patna-Mokama) and NH-80 (Begusarai-Purnea).
- The National Highway Authority of India has made a **rare exception to clear the feasibility report** of the bridge. As per the rule, **within 50 km** of a bridge, upstream or downstream, **a new bridge cannot be considered**.
- But in this case, the **shortening of travel distance, potential benefits to the rural economy** and upcoming Assembly polls seem to have worked in the project's favour.
- Benefits of the bridge ➔ The bridge would **shorten the travel route** from North Bihar to South Bihar, Orissa, Jharkhand and Nepal **by at least 70 km**.
    - It would also **hold greater importance** in terms of the **safety of 13 industrial units in Begusarai and Barauni** by providing a base and easy access to NDRF teams in times of any industrial disaster.

10. Cyclone Sitrang

Why in News?

The first Tropical Cyclone of the post-monsoon season of 2022 is likely to form in the Bay of Bengal on October 24 and will be called Sitrang.

About

- The name Sitrang (read Si-trang) has been given **by Thailand**, and features in the list of tropical cyclone names prepared by the **Regional Specialised Meteorological Centre** (**RSMC**) being followed since April 2020.

- Impact of Cyclone Sitrang ➔ The prevailing low-pressure system will **strengthen and move towards India's east coast** in the coming four days. Gale winds and enhanced rainfall are expected mainly over **Andaman and Nicobar Islands**, **Odisha**, **West Bengal** and **Bangladesh** particularly the coastal districts.

👉 **Cyclone storms in October**

- The months of **October-November** and **May-June** see **storms of severe intensity develop** in the North Indian Ocean — comprising the Bay of Bengal and the Arabian Sea — with an average of five developing in a calendar year.
- In the past 131 years, October saw **61 storms develop in the Bay of Bengal**. In comparison with the Bay of Bengal, only **32 storms** have developed in the Arabian Sea in October since 1891.
- Reason for the cyclonic storm in the Bay of Bengal in October?
    - After the withdrawal of the Southwest monsoon, there is a **rise in ocean heating**, which leads to **rising in sea surface temperature over the Bay of Bengal**. The atmospheric moisture availability over the ocean region, too, is higher.
    - So, when remnant systems from the South China Sea reach the Bay of Bengal, they **get conducive conditions**, **aiding the formation** and **intensification of cyclones** in October.

11. Groningen Gas Field

Why in News?

The gas field in Groningen, the Netherlands, has again come under the spotlight amid concerns over energy supplies. The Dutch government announced that the field would be shut down by the end of 2024 due to the stress and suffering caused by earthquakes.

About

- The Groningen gas field is a **natural gas field** in Groningen province in the **northeastern part of the Netherlands**.
- It is the **largest natural gas field in Europe**
- The region saw **multiple earthquakes** throughout the 1980s. The Dutch government said it would **close the field in response to protests by locals**. The closing date was moved up from 2030 to 2022.
- However, the **unsure geopolitical developments** have prompted the Dutch government to refrain from permanently closing any wells this year.
- Significance of the field ➔ Bloomberg reported earlier this month that if allowed, the **additional supply from the gas field could go up** to a level that would make up for what Germany imported from Russia.

Source: University of Groningen

12. Sukapaika River

Why in News?

Sukapaika, a small river that stopped flowing 70 years ago in Odisha's Cuttack district is set to be rejuvenated.

About

- Sukapaika is one of the **several distributaries of the mighty Mahanadi river** in Odisha.
- It branches away from the Mahanadi at **Ayatpur village in Cuttack district** and flows for about 40 kilometres (km) before **rejoining its parent river at Tarapur** in the same district.
- Sukapaika river is an important system of the Mahanadi to **control floodwater** and **maintain the flow in the river** as well as the Bay of Bengal.

Mahanadi River Basin
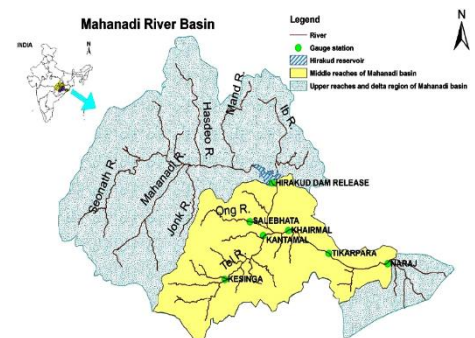
👉 **Mahanadi River**

- The Mahanadi River system is the **third largest of peninsular** India after Godavari and Krishna, and the largest river of Odisha state.
- The catchment area of the river extends to **Chhattisgarh**, **Madhya Pradesh**, **Odisha**, **Jharkhand** and **Maharashtra**.
- Its basin is bounded by the **Central India hills** on the north, by the **Eastern Ghats on** the south and east and by the **Maikala range** in the west.
- Source ➔ It rises from a place **near Sihawa**, in the **Dhamtari district of Chhattisgarh**.
- Major Tributaries ➔ **The Seonath**, **the Hasdeo**, **the Mand** and **the Ib** joins Mahanadi from left whereas the **Ong**, **the Tel** and **the Jonk** joins it from right.
- Major Dams/Projects on Mahanadi ➔
  - **Hirakud Dam**: This is the **longest dam** of India.
  - **Ravishankar Sagar**, **Dudhawa Reservoir**, **Sondur Reservoir**, **Hasdeo Bango** and **Tandula** are other major projects.

13. Ethiopia

Why in News?

An Ethiopian government team and Tigray forces are going to have peace talks in South Africa.

About

- Location ➔ It is a **landlocked country** located in the **Horn of Africa**, officially known as the Federal Democratic Republic of Ethiopia.
- The country lies completely **within the tropical latitudes** and is relatively compact, with similar north-south and east-west dimensions.
- Capital ➔ **Addis Ababa**.
- Ethiopia is **one of the world's oldest countries**, its territorial extent having varied over the millennia of its existence.
- It is the **tenth-largest country** in Africa in terms of area.
- Ethiopia is located from **Sudan** in the southeast, **Eritrea** to the south, **Djibouti** and **Somalia** to the west, **Kenya** to the north, and **South Sudan** to the east.
- It is the **most populous** landlocked country in the world.
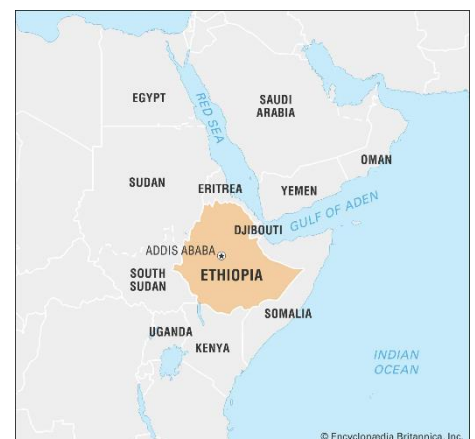
12. Alps Mountains

Why in News?

In 2022, glaciers in the Swiss Alps melted more than any other year on record.

About

- The Alps emerged during the **Alpine orogeny** (mountain-building event), an event that began about **65 million years ago** as the Mesozoic Era was drawing to a close.
- The Alps are young fold mountains with **rugged relief and high conical peaks**. They are the most prominent of Western Europe's physiographic regions.
- Countries covered ➔ The Alps form **part of France**, **Italy**, **Switzerland**, **Germany**, **Austria**, **Slovenia**, **Croatia**, **Bosnia** and

Herzegovina, **Montenegro**, **Serbia**, and **Albania**. But only Switzerland and Austria can be considered true Alpine countries.

- Highest Peak ➔ **Mont Blanc** is the highest peak in the Alps and in Europe, reaching a **lofty 4,804 meters** above sea level. It is located in the **Graian Alps and lies within France, Switzerland, and Italy**.

Polity

1. Matadata Junction program

Why in News?

Election Commission to launch Matadata Junction on All India Radio.

About

- It is a **year-long voter awareness program**.
- The Matadata Junction program will be broadcast in **23 languages** across the country.
- The weekly program covers **all aspects of the Voter ecosystem** and shall be broadcast **every Friday** on **the All India Radio network**.
- Each Program will be based on a **particular Theme** on the Electoral process.
- All the **52 Themes** are aimed at **encouraging all eligible citizens** and especially the young and first-time voters **to vote and make an informed decision** during the elections.
- The program includes a **Citizen's Corner** where any citizen can ask a query or suggest any aspects of the voting.

2. Lok Adalats

Why in News?

National Lok Adalat will be held on 12 November across the country to dispose off pending cases through settlement.

About

- What is it? ➔ Lok Adalat is one of the **alternative dispute redressal mechanisms**, it is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/ compromised amicably.
- Who conducts? ➔ **National Legal Services Authority of India** (**NALSA**) along with other Legal Services Institutions conducts Lok Adalats.
- Status ➔ Lok Adalats have been given **statutory status** under the Legal Services Authorities Act, 1987.
- Appeal ➔
  - The award (decision) made by the Lok Adalats is **deemed to be a decree of a civil court** and **is final and binding on all parties** and **no appeal** against such an award lies before any court of law.
  - If the parties are not satisfied with the award of the Lok Adalat though there is **no provision for an appeal** against such an award, but they are **free to initiate litigation** by approaching the court of appropriate jurisdiction by filing a case by following the required procedure, in exercise of their **right to litigate**.
- Fees ➔ There is **no court fee payable** when a matter is filed in a Lok Adalat.
- Nature of Cases to be Referred to Lok Adalat ➔
  - Any case pending before any court.
  - Any dispute which has not been brought before any court and is likely to be filed before the court.
- Provided that any matter relating to an offence **not compoundable** under the law shall **not be settled in Lok Adalat**.

3. Scheduled Caste Status for Converted Dalits

Why in News?

The Centre has recently appointed a commission to examine the issue of whether Scheduled Caste (SC) status can be accorded to Dalits who have over the years converted to religions other than Sikhism or Buddhism.

About

- Members ➔ The three-member commission is headed by former Chief Justice of India **K G Balakrishnan**, along with Professor **Sushma Yadav** from UGC and retired IAS officer **Ravinder Kumar Jain**.

- Timeline ➔ The committee has been given a **two-year deadline** to submit a report on the issue.
- The commission's inquiry will look into ➔
    o The **implications of adding new persons** to Scheduled Castes on the existing Scheduled Caste members.
    o The **changes an SC person** goes through after converting to another religion.
    o The **changes they go through on converting** to other religions in terms of customs, traditions, social and other discrimination, and deprivation.

☞ **Earlier Recommendations**

- Ranganath Misra Commission (2004) ➔ It recommended that SC status should be made **fully religion-neutral** like Scheduled Tribes.
- The National Commission for Scheduled Castes and the National Commission for Minorities had also recommended **providing SC status to Dalit Muslims and Dalit Christians**.

4. North Eastern Council

Why in News?

The Plenary meeting of North Eastern Council concluded recently.

About

- NEC is not a constitutional body, but a **statutory organization** established in **1971** under the North Eastern Council Act, 1971.
- Composition ➔ It **comprises Governors and Chief Ministers** of all the 8 North-Eastern States and three members nominated by the President.
- Functions ➔
    o To function as **Apex Regional Planning Body** for the North Eastern Region.
    o **Implementing various projects** through the State and Central agencies.
- Administration ➔ In June 2018, Union cabinet approved the **nomination of the Home Minister as the ex-officio chairman** and Minister for DoNER (Development of North-East Region) as the council's vice chairman.

5. Election Commission Freezes Shiv Sena Symbol

Why in News?

Recently, the Election Commission barred the Shiv Sena factions led by former CM Uddhav Thackeray and current Maharashtra CM Eknath Shinde from using the party name and its election symbol.

About How does the ECI decide who gets the symbol?

- **Before 1968**, the **EC issued notifications and executive orders** under the Conduct of Election Rules, 1961.
- According to **Para 15 of the Symbols Order, 1968**, "When the Commission is satisfied… that there are rival sections or groups of a recognised political party each of whom claims to be that party.
- The Commission may decide that….one such rival section or group or none of such rival sections or groups is that recognised political party and the decision of the Commission shall be binding on all such rival sections or groups." This applies to disputes in recognised national and state parties.
- Previous instances: The first case under the **1968** order was the **split of the Indian National Congress in 1969**.
- How does Election Commission resolve symbol disputes?
    o The ECI usually **conduct the test of majority** to resolve a symbol dispute. In almost all disputes decided by the EC so far, a clear majority of party delegates/office bearers, MPs and MLAs have supported one of the disputing factions.
    o Whenever the EC could **not test** the strength of rival groups based on support within the party organisation, it **fell back on testing the majority** only among elected MPs and MLAs.

- Can the splinter group become a recognised political party/parties?
    - **Prior to 1997**, the EC will **assess the splinter group of the party** — other than the group that got the party symbol. They will be considered as a **recognised party**, if they have a substantial presence in some states and satisfied the criteria fixed for recognition of parties under Paras 6 and 7 of the Symbols Order.
    - In **1997**, the EC introduced a **new rule** under which the splinter group of the party — other than the group that got the party symbol — **had to register itself as a separate party**, and could lay claim to national or state party status only on the basis of its performance in the state or central elections after registration.

6. Split verdict

Why in News?

The Supreme Court recently delivered a split verdict in the Karnataka hijab ban case.

About

- A split verdict is passed when the **Bench cannot decide one way** or **the other in a case**, either by an unanimous decision or by a majority verdict.
- Split verdicts can only happen when the Bench has an **even number of judges**. This is why judges usually sit in Benches of odd numbers (three, five, seven, etc.) for important cases, even though two-judge Benches — known as **Division Benches** — **are not uncommon**.
- In case of a split verdict, the case is **heard by a larger Bench**. The larger Bench to which a split verdict goes can be a three-judge Bench of the High Court, or an appeal can be preferred before the Supreme Court. In the case of the hijab verdict, the **CJI**, who is the '**master of the roster**', **will constitute a new**, **larger Bench to hear the matter**.

👉 Earlier cases with a split verdict

- A two-judge Bench of the **Delhi High Court** delivered a split verdict in petitions **challenging the exception provided to marital rape** in the Indian Penal Code (IPC).
- **Madras High Court** Division Bench order on the challenge to the disqualification of AIADMK MLAs owing allegiance to TTV Dinakaran (2018).

7. Governor

Why in News?

Kerala governor warned ministers against making statements that lowered the dignity of his office and saying it would invite action, including their removal from office.

About

- Article 163 ➔ There shall be a **council of ministers with the chief minister as the head to aid and advise the governor** in the exercise of his functions, except in so far as he is required to exercise his functions in his discretion.
- Article 164 ➔ The **chief Minister shall be appointed by the Governor** and the other Ministers shall be appointed by the Governor on the advice of the Chief Minister, and the Ministers shall **hold office during the pleasure of the Governor**.
- Article 174 ➔ The Governor can also **summon**, **prorogue**, and **dissolve** the Legislative Assembly. By convention, he does this on the advice of the Council of Ministers while they enjoy the confidence of the Assembly.
- Article 200 ➔ Every Bill passed in an Assembly has to be sent to the Governor, after which he has **four options**
    - to assent to the Bill,
    - withhold assent,
    - reserve the Bill for the consideration of the President, or
    - **return the Bill** to the legislature, asking it to reconsider the Bill or an aspect of it. The Governor can also **suggest an amendment** to the Bill.

8. Chief Justice of India

Recently, Justice Dhananjaya Y Chandrachud was appointed as the 50th Chief Justice of India.

About

- Qualifications ➜
  - The CJI should be a **citizen of India**.
  - He/She should:
    - Have been for at least **five years a Judge of a High Court or of two or more such Courts in succession** or
    - Have been for at least **ten years an advocate of a High Court or of two or more such Courts in succession**, or
    - Be, in the opinion of the President, **a distinguished jurist**.
- Appointment of the CJI ➜
  - The CJI and the Judges of the Supreme Court (SC) are **appointed by the President** under clause (2) of Article 124 of the Constitution.
  - As far as the CJI is concerned, the **outgoing CJI recommends his successor**.
  - The **Union Law Minister forwards** the recommendation to the Prime Minister who, in turn, advises the President.
  - SC in the **Second Judges Case (1993)**, ruled that the **senior most judge** of the Supreme Court should alone be appointed to the office of the CJI.
  - The **SC collegium is headed by CJI** and comprises four other senior most judges of the court.
  - The collegium system is the **system of appointment and transfer of judges** that has evolved through judgments of the SC (Judges Cases), and not by an Act of Parliament or by a provision of the Constitution.
- Administrative Powers of CJI (Master of Roster) ➜
  - It is common to refer to the office as primus inter pares – **first amongst equals**.
  - Besides his **adjudicatory role**, the CJI also plays the role of the **administrative head of the Court**.
  - In his **administrative capacity**, the Chief Justice exercises the **prerogative of allocating cases to particular benches**.
  - CJI also **decides the number of judges** that will hear a case.
  - Such administrative powers can be **exercised without collegial consensus**, and without any stated reasons.
- Removal ➜
  - He/She can be removed **by an order of the President** only after an address by Parliament has been presented to President.
  - This should be **supported by a special majority** of each House of Parliament (i.e., by a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting).
  - Grounds of Removal: Proved **misbehaviour or Incapacity** (Article 124(4)).
- Recent Development ➜ In 2019, the SC ruled that the office of Chief Justice of India (CJI) **comes under the purview of the Right to Information (RTI) Act, 2005**.

9. Right to Privacy

Why in News?

The Supreme Court rejects WhatsApp-Meta pleas against Competition Commission of India (CCI) probe into privacy policy of 2021.

About

- Generally understood that privacy is synonymous with the **right to be let alone**.
- The Supreme Court described privacy and its importance in the landmark decision of **K.S. Puttaswamy v. Union of India in 2017** that - Right to Privacy is a **fundamental and inalienable right** and attaches to the person covering all information about that person and the choices that he/ she makes.
- The right to privacy is protected as an **intrinsic part of the right to life** and personal liberty **under Article 21** and as a part of the freedoms guaranteed by Part III of the Constitution.
- Restrictions (as stated in the Judgement) ➜ The right may be restricted only by state action that passes each of the three tests:
  o First, such state action must have a **legislative mandate**,
  o Second, it must be pursuing a **legitimate state purpose**, and
  o Third, it **must be proportionate** i.e., such state action- both in its nature and extent, must be necessary in a democratic society and the action ought to be the least intrusive of the available alternatives to accomplish the ends.

👉 **Competition Commission of India (CCI)**

- CCI is a **statutory body** under the Ministry of Corporate Affairs and is responsible for enforcing the Competition Act, 2002.
- It consists of **a Chairperson and 6 Members** appointed by the Central Government.
- Objectives ➜
  o Eliminate practices having adverse effect on competition
  o Promote and sustain competition
  o Protect the interests of consumers
  o Ensure freedom of trade in the markets of India.

10. Hate Speech

Why in News?

The Supreme Court recently directed the police and authorities to immediately and suo motu register cases against hate speech makers without waiting for a complaint to be filed.

About

- There is **no specific legal definition** of 'hate speech'.
- In general, hate speech is considered a **limitation on free speech** that seeks to prevent or bar speech that exposes a person or a group or section of society to hate, violence, ridicule or indignity.
- Provisions in law criminalise speeches, writings, actions, signs and representations that **foment violence and spread disharmony between communities and groups** and these are understood to refer to 'hate speech'.

👉 **Article 19 and Hate Speech:**

- **Article 19(2)** of the Constitution guarantees **freedom of speech and expression** to all citizens of India.
- This article is subjected to **certain restrictions**, namely, sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.
- Provisions in **clauses (2) to (6) of Article 19 authorizes the State to restrict** the exercise of the freedom guaranteed under the article.

👉 **Legal Provisions:**

- **Sections 153A and 505** of the Indian Penal Code are generally taken to be the main penal provisions that **deal with inflammatory speeches and expressions** that seek to punish 'hate speech'.

- Under **Section 153A**, '**promotion of enmity** between different groups on grounds of religion, race, place of birth, residence, language, etc., and **doing acts prejudicial to maintenance of harmony'**, is an offence punishable with three years' imprisonment.
- **Section 505** of Indian Penal Code (IPC)makes it an offence to making "**statements conducing to public mischief**".
- **Section 8** of Representation of the People Act, 1951 **disqualifies a person** from contesting election if he is convicted for indulging in acts amounting to **illegitimate use of freedom of speech and expression**.

11. General Consent to CBI

Why in News?

Recently, Maharashtra Government restored general consent to the Central Bureau of Investigation (CBI) to investigate cases in Maharashtra.

About

- Mandatory consent ➔ CBI is governed by The Delhi Special Police Establishment (DSPE) Act, 1946, and it **must mandatorily obtain the consent of the state government** concerned before beginning to investigate a crime in a state.
- Section 6 of The DSPE Act ➔
  o Consent of the State Government to **exercise powers and jurisdiction**.
  o Nothing contained in **section 5** (titled "Extension of powers and jurisdiction of special police establishment to other areas") shall be **deemed to enable any member of the Delhi Special Police Establishment to** exercise powers and jurisdiction in any area in a State, not being a Union territory or railway area, **without the consent of the Government of that State**.
- Authority different from NIA ➔
  o The CBI's position is in this respect different from that of the National Investigation Agency (NIA).
  o NIA is governed by **The NIA Act, 2008**, and has jurisdiction **all over the country**.
- Types of Consent ➔
  o General Consent: When a state gives a general consent (Section 6 of the Delhi Special Police Establishment Act) to the CBI for probing a case, the agency is **not required to seek fresh permission every time** it enters that state in connection with investigation or for every case.
    ▪ A general consent is given to **facilitate that seamless investigation** in a case of corruption or violence.
  o Specific Consent: When a general consent is withdrawn, CBI needs to seek **case-wise consent for investigation** from the concerned state government.
    ▪ If specific consent is not granted, the CBI officials will not have the power of police personnel when they enter that state.
    ▪ This **hurdle impedes seamless investigation** by the CBI..

☞ Central Bureau of Investigation (CBI)

- The CBI was set up in **1963 by a resolution** of the Ministry of Home Affairs.
  o Now, the CBI comes under the administrative control of the Department of Personnel and Training (DoPT) of the Ministry of Personnel, Public Grievances and Pensions.
- The establishment of the CBI was recommended by the **Santhanam Committee on Prevention of Corruption** (**1962–1964**).
- The CBI is **not a statutory body**. It derives its powers from the **Delhi Special Police Establishment Act, 1946**.
- The CBI is the **main investigating agency** of the Central Government.
  o It also provides **assistance to the Central Vigilance Commission and Lokpal**.
  o It is also the nodal police agency in India which **coordinates investigations on behalf of Interpol Member countries**.

12. I&B Ministry Advisory

Why in News?

Ministry of Information and Broadcasting (I&B) has issued an advisory stating that any kind of broadcasting be done only through Prasar Bharti.

About

- It states that ministries, departments of the central government, state governments, and union territory (UT) administrations or entities related to them would **not be allowed to enter into broadcasting or distribution of broadcasting activities**.
- In case central ministries, states, UTs and entities related to them are already broadcasting their content, it would now be **done through the public broadcaster Prasar Bharati**.
- It is in **line with the recommendations of the Telecom Regulatory Authority of India** (**TRAI**), the Supreme Court judgment and the legal opinion given by the Ministry of Law and Justice.
  - As per the Supreme Court, **Public service broadcasting** should be in the **hands of a statutory corporation** or **corporation set up under a statute** to ensure their impartiality in political, economic, and social matters.
- As per the existing policy guidelines for **setting up of community radio** in India, government universities, colleges, schools, Krishi Vigyan Kendras, central / state universities, including autonomous bodies and agricultural universities are eligible for setting up of community radios.

> **Telecom Regulatory Authority of India (TRAI)**
> - Established in 1997
> - Established by an Act of Parliament, called the **Telecom Regulatory Authority of India Act, 1997**
> - TRAI is an independent regulator of Telecom Business in India.
> - Aims to regulate telecom services, including fixation/revision of tariffs for telecom services which were earlier vested in the Central Government.
> - Its mission is to create and nurture conditions for growth of telecommunications in India to enable country to have leading role in emerging global information society.
> - It also provides fair and transparent environment that promotes level playing field and facilitates fair competition in the market.
> - It also regularly **issues orders and directions** on various subjects such as tariffs, quality of service, interconnections, Direct To Home (DTH) services and mobile number portability.
> - TRAI also **fixes or revises the tariffs for telecom services in India.**

☞ **Prasar Bharti**

- Prasar Bharati is a **statutory autonomous body**. It is the Public Service Broadcaster of the country.
- It was established under the **Prasar Bharati Act in 1997**.
- The Prasar Bharati Corporation's main objective is to provide **autonomy to Doordarshan and Akashvani** in order to **educate and entertain the public**.

13. Uniform Civil Code (UCC)

Why in News?

The Gujarat government recently moved a proposal to constitute a committee to evaluate all aspects of implementing the Uniform Civil Code (UCC).

About

- A Uniform Civil Code is one that would **provide for one law for the entire country**, **applicable to all religious communities** in their personal matters such as marriage, divorce, inheritance, adoption etc.
- **Article 44 of the Constitution** lays down that the state shall endeavour to secure a Uniform Civil Code for the citizens throughout the territory of India.

☞ **Directive Principles of State Policy:**

- **Article 44** is one of the Directive Principles of State Policy.
- These, as defined in **Article 37**, **are not justiciable** (not enforceable by any court) but the principles laid down therein are **fundamental in governance**.

- While **Article 44** uses the words "**state shall endeavour**", other Articles in the '**Directive Principles'** chapter use words such as "**in particular strive**"; "**shall in particular direct its policy**"; "**shall be obligation of the state**" etc.

☞ Uniform Civil Code (Goa)

- **Goa**, a former Portuguese colony, was incorporated into the Union of India in 1961. In **1987**, Goa was **made a separate state**.
- The Uniform Civil Code (**UCC**) was **introduced in Goa in the year 1870** by the erstwhile Portuguese rulers.
- It was retained even after the territory was merged with India in the year 1961.

14. One Nation one Police Uniform

Why in News?

The Prime Minister has mooted the idea of "one nation, one police uniform". He was addressing the State Home Minister's conference on internal security issues in Faridabad, Haryana.

About

- One Nation one Police Uniform means **having a uniformed attire for police officers across India**.
- This will not only ensure quality products due to the scale at which they'll be produced but also give a **common identity to law enforcement** as citizens will recognise police personnel anywhere in the country.

☞ Police Uniforms in States

- The Indian Constitution puts police forces **under the jurisdiction of state governments**, and each of the 28 states have their own police force.
- Both 'public order' and the 'police' are placed in **List II (State List) of the Seventh Schedule** of the Constitution, which deals with the division of powers between the Union and States.
- While police personnel in India are often associated with the **colour khaki**, their uniforms do **differ in varying degrees in different regions**.
- Since **state governments and even an individual force can decide** the uniform their personnel wear, there are at times inconsistencies in their official attire.
- For instance, **Kolkata police wear white uniforms**, **Puducherry Police constables wear bright red caps** with their khaki uniforms, Delhi Traffic Police personnel wear white and blue uniforms among others.

International Relations

1. United Nations Conference on Trade and Development

Why in News?

Recently, according to the forecast by the UNCTAD, India's economic growth is expected to decline to 5.7 per cent this year from 8.2 per cent in 2021.

About

- It was established in **1964 to promote trade**, **investment**, and development in developing countries.
- It is a **permanent organ** of the United Nations (UN) General Assembly.
- It is headquartered in **Geneva, Switzerland**.
- UNCTAD has approximately **190 members**.
- The highest policy-making body of UNCTAD is the Conference, which **meets once every four years** to set policy guidelines and to formulate a program of work.
- Functions ➔
  - o **Comprehend options** to address macro-level development challenges
  - o **Achieve beneficial integration** into the international trading system
  - o **Diversify economies** to make them less dependent on commodities
  - o **Limit their exposure** to financial volatility and debt.
- Flagship reports ➔ Trade and Development Report, World Investment Report, The Least Developed Countries Report, Economic Development in Africa Report, Information Economy Report, Technology and Innovation Report, Review of Maritime Transport.

2. Food and Agriculture Organization (FAO)

Why in News?

Recently, the Food and Agriculture Organization (FAO) of the United Nations released a report on deforestation, livestock grazing and farmer field schools. Food demand to support the global population will be 50% more in 2050 compared with 2012.

About

- FAO is a **specialized agency of the United Nations** that leads international efforts to defeat hunger.
- **World Food Day** is celebrated every year on **16th October** to mark the anniversary of the founding of the FAO in 1945.
- It is **one of the UN food aid organisations** based in **Rome (Italy)**. Its sister bodies are the World Food Programme and the International Fund for Agricultural Development (IFAD).
- Initiatives Taken ➔
  - o Globally Important Agricultural Heritage Systems (**GIAHS**).
  - o **Monitors the Desert Locust** situation throughout the world.
  - o The **Codex Alimentarius Commission** or CAC is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.
  - o The **International Treaty** on Plant Genetic Resources for Food and Agriculture.
- Flagship Publications ➔
  - o The State of World Fisheries and Aquaculture (**SOFIA**)
  - o The State of the World's Forests (**SOFO**)
  - o The State of Food Security and Nutrition in the World (**SOFI**)
  - o The State of Food and Agriculture (**SOFA**)
  - o The State of Agricultural Commodity Markets (**SOCO**)

o World Food Price Index.

3. UN Peacekeeping

Why in News?

The United Nations peacekeeping chief Jean-Pierre Lacroix is undertaking a visit to India, among the largest troop contributing countries for its operations.

About

- UN peacekeepers **provide security and the political and peacebuilding support** to help countries make the difficult, early transition from conflict to peace.
- There are **three basic principles** that continue to set UN peacekeeping operations apart as a tool for maintaining international peace and security.
    - o Consent of the parties:
    - o Impartiality
    - o Non-use of force except in self-defence and defence of the mandate.
- Role of Security Council ➔ The United Nations Charter gives the **United Nations Security Council the responsibility** to maintain international peace. The Security Council authorize peacekeeping operations through Chapter VII authorizations.
- Financing ➔ As all UN Member States **share the costs** of peacekeeping, the General Assembly apportions these expenses based on a **special scale of assessments**, **taking into account the relative economic wealth** of Member States, **with the permanent members** of the Security Council required to pay a larger share.
- For its services, UN Peacekeeping has also received the **Nobel Peace Prize**.
- UN peacekeepers are often referred to as **Blue Berets** or **Blue Helmets** because of their light blue berets or helmets.

4. UN resolution on Sri Lanka

Why in News?

India abstained from voting on a resolution against Sri Lanka at the U.N. Human Rights Council (UNHRC).

About

- The resolution was titled '**Promoting reconciliation, accountability and human rights in Sri Lanka'**.
- The resolution was adopted with **20 nations voting in favour** in the 47-member UNHRC, **seven against**, including China and Pakistan, and 20 abstentions, including by India, Japan, Nepal and Qatar.
- **India abstained from voting** while observing that Sri Lanka's progress in implementing commitments on the 13th Constitutional Amendment, meaningful devolution and the early conduct of provincial elections.

👉 **UN Human Rights Council**

- What is it? ➔ It is an **inter-governmental body** within the UN system.
- Location ➔ It meets at the **UN Office at Geneva**.
- Establishment ➔ It was founded in **2006**. It replaced the former United Nations Commission on Human Rights (UNCHR).
- Functions ➔
    - o It **investigates allegations** of breaches of human rights in UN member states.
    - o It **addresses important human rights issues** such as freedom of expression, women's rights, LGBT rights, and the rights of racial and ethnic minorities.
    - o The **UNHRC works closely** with the Office of the High Commissioner for Human Rights (OHCHR).
- Membership ➔

o The Council is made of **47 Member States**, which are **elected by UN General Assembly** through direct and secret ballot. The Council's Membership is based on equitable geographical distribution.

o Members of the Council serve for a **period of three years** and are **not eligible for immediate re-election** after serving two consecutive terms.

o In June 2018, the **United States announced its withdrawal** from the United Nations Human Rights Council (UNHRC) terming it "hypocritical and self-serving".

5. Global Artificial Intelligence Summit & Awards

Why in News?

The Union Minister of Commerce and Industry addressed the 3rd edition of Global Artificial Intelligence Summit & Awards (GAISA), and articulated that Artificial Intelligence can help India be a developed nation by 2047.

About

- Organized by ➔ The third AI Summit has been organized by **AICRA** (**All India Council For Robotics & Automation**).
- Focus ➔ Focusing on the **areas of defence**, **healthcare**, **agriculture**, **smart cities**, **mobility** and **education** in partnership with the government.
  o AICRA **sets up standards** in the robotics & automation and education industry, helping organizations and professionals to solve difficult technical problems, while enhancing their leadership and personal career capabilities.
- GAISA-Global Artificial Intelligence Summit focuses on the **prominence of AI in human lives & business industries**.
- The aim is to **develop a roadmap** on how to use the AI ecosystem and startups for the benefit of society.
- It has **set up multidisciplinary groups** to break down the silos in which different stakeholders have been working and to find technological solutions for the key sectors of our society.

☞ **Artificial Intelligence**

- It describes the **action of machines accomplishing tasks** that have historically required human intelligence.
- It **includes technologies** like machine learning, pattern recognition, big data, neural networks, self-algorithms etc.
- The origin of the concept can be traced back to **Greek mythology**, although it is only during modern history when stored program electronic computers were developed.

6. Automatic Exchange Of Information

Why in News?

India has received the fourth set of Swiss bank account details of its nationals and organisations as part of an annual information exchange, under which Switzerland has shared particulars of nearly 34 lakh financial accounts with 101 countries.

About

- The guidelines and parameters for the AEOI **are set by the Organisation for Economic Co-operation and Development** (OECD).
- In 2013, **G20 countries endorsed AEOI** as the new global standard for exchange of information.
- G20 asked the OECD to **develop** a standard, as well as the required implementation and monitoring processes for AEOI.
- AEOI allows every country to **obtain data from Financial Institutions** (FIs) and "**automatically**" **exchange it** with countries with which AEOI agreements are in order, every year.
- The information exchanged relates to **individuals**, **corporate** (shell companies) and **trusts**.
- The information received under the annual exercise of AEOI, is used extensively in **probes of suspected tax evasion**, **money laundering** and **terror funding**.

- Under the OECD's guidelines, **no details of the quantum of funds or the names** of account holders are to be publicised.
- In India, the information received is kept in the custody of and for action by the **Central Board of Direct Taxes** (CBDT).

☞ **Organisation for Economic Co-operation and Development**

- Organisation for Economic Co-operation and Development (OECD) is a **Paris-based international organisation** of developed countries that that discuss and develop economic and social policy.
- The OECD **brings together** Member countries and a range of partners that **collaborate on key global issues** at national, regional and local levels.
- OECD is a group of **38 member** countries and **India is not a member**.

7. 2nd United Nations World Geospatial Information Congress

Why in News?

PM Narendra Modi recently addressed 2nd UN World Geospatial International Congress. It is being held in Hyderabad.

About

- The goal of this year's UNWGIC is to **promote a broad dialogue on global geospatial information management** with all relevant governments, non-governmental organisations, academia, and the private sector.
- Theme: The theme of UNWGIC 2022 is **'Geo-Enabling the Global Village: No one should be left behind'**.
- It was hosted by the **ministry of science and technology** of the government of India.

United Nations World Geospatial Information Congress (UNWGIC)

- The United Nations Global Geospatial Information Management (UN-GGIM) convened the conference on UNWGIC 2022 and was organised by the **United Nations Department of Economic and Social Affairs**.
- It is conducted **every four years** with the objectives of **enhancing international collaboration** among the Member States and relevant stakeholders in Geospatial information management and capacities.
- The first UNWGIC was **organized by China in October 2018**.

8. CICA

Why in News?

Minister of State for External Affairs has recently rejected Pakistan's statement on the Kashmir issue at the Conference on Interaction and Confidence Building Measures in Asia (CICA) held in Astana.

About

- What is it? ➔ It is a **multinational forum for strengthening cooperation** towards promoting peace, security and stability in Asia.
- Founded by ➔ **Kazakhstan's First President in 1992**.
- First summit ➔ held in **2002**.
- Location of CICA Secretariat ➔ **Almaty (Kazakhstan)**.
- Meetings and Summits ➔ The CICA Summit is **convened every four years** in order to conduct consultations, review the progress of, and set priorities for CICA activities.
- The Meeting of the **Ministers of Foreign Affairs** is required to be **held every two years**.
- Members ➔ To be a member of CICA, a state must have **at least a part of its territory in Asia**. So far the CICA has **27 member countries**, **9 observer states**, and **5 international organizations**.
- Participation of India ➔ **India is one of the founding members** of CICA.

9. International Monetary and Finance Committee (IMFC)

Why in News?

Union Finance Minister recently attended the International Monetary and Financial Committee in Washington DC.

About

- What is it? ➔ The **IMF Board of Governors** is advised by two ministerial committees, the **International Monetary and Financial Committee** (IMFC) and the **Development Committee**.
- Composition ➔ The IMFC has **24 members**, drawn from the pool of 190 governors. Its structure mirrors that of the **Executive Board** and **its 24 constituencies**. As such, the IMFC represents all the member countries of the Fund.
- Working ➔ The IMFC meets twice a year, during the Spring and Annual Meetings. The Committee **discusses matters of common concern** affecting the global economy and **also advises the IMF** on the direction its work.

👉 The Development Committee

- It is a joint committee, tasked with advising the Boards of Governors of the IMF and the World Bank on **issues related to economic development in emerging** and **developing countries**.
- The committee has **24 members** (usually ministers of finance or development).
- It represents the **full membership of the IMF and the World Bank** and mainly serves as a forum for building intergovernmental consensus on critical development issues.

10. 2nd India-Africa Defence Dialogue

Why in News?

The 2nd India-Africa Defence Dialogue was organised at Gandhinagar, Gujarat, as part of the 12th DefExpo 2022.

About

- India-Africa Defence Dialogue (IADD) was institutionalised at **DefExpo 2020** to be **held biennially during successive DefExpos**.
- The IADD **explores new areas of convergence for mutual engagement**, including in areas like capacity building, training, cyber security, maritime security and counter terrorism.
- The first-ever India-Africa Defence Ministers Conclave was **held in Lucknow**, in conjunction with DefExpo 2020.
- In IADD 2020, a Joint Declaration named '**Lucknow Declaration'** was adopted.

👉 IADD 2022

- In 2nd IADD 2022, **50 African countries** participated.
- They adopted a '**Gandhinagar declaration**' as an outcome document.
- The Gandhinagar Declaration charted out **new areas for enhancing the India-Africa defence and security partnership**.
- India and African countries as important stakeholders in **ensuring a safe and secure maritime environment**, especially in the Indian Ocean Region.
- India offered '**India-Africa Security Fellowship Programme**' for experts from African countries through Manohar Parrikar Institute for Defence Studies and Analysis.

11. Financial Action Task Force

Why in News?

Pakistan was taken off from the Financial Action Task Force (FATF) "Grey list" after four years.

About

- Financial Action Task Force (FATF), commonly referred to as the **world's terrorism financing watchdog**, is an inter-governmental decision-making body.

- Established ➔ It was established in **1989** during the G7 Summit in Paris to **develop policies against money laundering**.
- Its Secretariat is located in **Paris**.
- It set standards and promotes effective implementation of ➔
  - **Legal**, **regulatory** and **operational measures** for combating money laundering.
  - **Identify national-level vulnerabilities** with the aim of protecting the international financial system from misuse.
- In 2010, India became the **34th member** country of FATF.
- FATF maintains two types of lists.
  - Black List ➔ Countries knowns as **Non-Cooperative Countries or Territories** (**NCCTs**) are put in the blacklist.
  - These countries **support terror funding** and **money laundering activities**.
  - The FATF **revises** the blacklist regularly, adding or deleting entries.
  - Grey List ➔ Countries that are considered **safe haven for supporting terror funding and money laundering** are put in the FATF grey list.
  - This inclusion serves as a warning to the country that it **may enter the blacklist**.

12. G20 Religion Forum

Why in News?

In a first-of-its-kind event, Indonesia will host a global summit of religious leaders modelled on the G20 forum.

About

- It was called the '**G20 Religion Forum'**, or **R-20**.
- The first summit is scheduled on **November 2 and 3, 2022**, **in Bali, Indonesia**.
- It will be a **parallel event to the annual G20 summit** that Indonesia will host for 2022.
- It will be organised and hosted by **Nahdlatul Ulama** (**NU**), one of Indonesia's most influential Islamic think tanks.
- The R20 aims to **facilitate harmonious relations** between religious groups and to open new hopes for reconciliation, brotherhood and peace.
- The R20 this year will focus on four major topics ➔
  - **Historical grievances**, truth-telling, reconciliation and forgiveness;
  - **Identifying and embracing values shared** by the world's major religions and civilisations;
  - **Recontextualisation** of obsolete and problematic teachings of religion; and
  - **The values we need to develop** to ensure peaceful co-existence.

13. Like Minded Developing Countries (LMDC) Group

Why in News?

Union Minister for Environment Forest and Climate change recently participated in Ministerial Meeting of Like Minded Developing Countries (LMDC).

About

- It comprises of around **18 developing countries** from Asia and other regions.
- **India is part of the LMDC grouping** along with Egypt, Indonesia, Malaysia, Iran, Bangladesh, Sri Lanka, the Philippines and others.
- It represents about **50 per cent of the world's population**.
- It usually presents a **common front at climate negotiations**.

14. Asian Infrastructure Investment Bank (AIIB)

Why in News?

Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman recently attended the 7th Annual Meeting of the Board of Governors of AIIB via video conference. The theme of this year's Annual Meeting was "Sustainable Infrastructure Toward a Connected World".

About

- What is AIIB? ➔ AIIB is a **multilateral development bank** that aims to improve economic and social outcomes in Asia.
- Headquarters ➔ **Beijing, China**.
- Board of Governors ➔ All powers of the Bank are vested in our **Board of Governors**, which is the **highest decision-making body** under our Articles of Agreement.
- Membership ➔ AIIB has **105 members**. **China is the AIIB's largest shareholder** with a 26.5% voting share. **India is the second-largest**, with 7.5%, followed by Russia, which has a 5.97% voting share.
  - **India is a Founding Member** of AIIB. India also has the largest project portfolio within AIIB.

15. 7th ASEAN-India Ministerial Meeting

Why in News?

Recently, the 7th ASEAN-India Ministerial Meeting (AIMMAF) on Agriculture and Forestry was held virtually.

About

- In the meeting, the progress in implementation of various programs and activities under the **Medium Term Action Plan of ASEAN-India Cooperation (Year 2021-2025**) was reviewed.
- The meeting also welcomed the **30th anniversary** of ASEAN-India relations.

👉 **The Association of Southeast Asian Nations (ASEAN)**

- It is a regional grouping that **promotes economic**, **political**, and **security cooperation**.
- It was established in **August 1967 in Bangkok**, **Thailand** with the signing of the ASEAN Declaration (**Bangkok Declaration**) by the founding fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand.
- Its **chairmanship rotates annually**, based on the alphabetical order of the English names of Member States.
- ASEAN countries have a total population of **650 million people** and a combined Gross Domestic Product (**GDP**) **of USD 2.8 trillion**.
- Commodity trade between India and ASEAN region has **reached 98.39 billion** in the period April 2021- February 2022.India's main trading ties are with Indonesia, Singapore, Malaysia, Vietnam and Thailand.
- Members ➔ ASEAN brings together ten Southeast Asian states – **Brunei**, **Cambodia**, **Indonesia**, **Laos**, **Malaysia**, **Myanmar**, **the Philippines**, **Singapore**, **Thailand** and **Vietnam** – into one organisation.

Society

1. Young, Upcoming and Versatile Authors (YUVA) 2.0

Why in News?

Union Ministry of Education has recently launched the PM's Scheme for mentoring (YUVA 2.0).

About

- It is an **Author Mentorship programme** to train young and budding authors (below 30 years of age) in order **to promote reading, writing and book culture** in the country, and project India and Indian writings globally.
- Launched by ➜ **Department of Higher Education** under Ministry of Education.
- Theme of YUVA 2.0 ➜ '**Democracy** (institutions, events, people, constitutional values – past, present, future)'
- Implementing Agency ➜ **National Book Trust of India**.
- How does the scheme function? ➜
    o Under the scheme, a total of **75 authors will be selected** through an All India Contest. These young authors will be **trained by eminent authors/mentors**. Under the mentorship, the first set of published books will be launched.
    o The **books prepared** under this scheme will be published by the National Book Trust of India. Further, it will also be **translated into other Indian languages** ensuring the exchange of culture and literature, thereby promoting '**Ek Bharat Shreshtha Bharat'**.
- What are the advantages of the YUVA 2.0 scheme? ➜
    o The scheme will help to **develop a stream of writers** who can write on a spectrum of subjects to promote Indian heritage, culture and knowledge system.
    o The scheme will also **provide a window for the aspiring youth to articulate themselves** and present a comprehensive outlook of Indian Democratic values on domestic and international platforms.

2. Modified breastfeeding technique

Why in News?

A set of modified breastfeeding techniques developed at the Indian Institute of Technology, Bombay (IIT-B), is helping the children in Nandurbar district, Maharashtra to tackle malnutrition.

About

- Developed by ➜ IIT-B's **Centre for Technology Alternatives for Rural Areas** (CTARA).
- Based on ➜ The technique is improvised on the "**cross-cradle hold**", mentioned in WHO guidelines for low birthweight babies. With **the U-shape contouring of the breast**, the mother's fingers are parallel to the baby's lips.
- This **helps with the proper attachment** of the baby's mouth to the lower part of the areola, which makes it **easy for the baby to swallow**.
- Promotion ➜ Several **animated tutorials** on the techniques has been developed and are being **translated into 20 Indian languages.**
- Benefits of this technique ➜ The government's module says **500 grams of weight gain per month**. But this technique has **helped in weight gain** of around **900 grams a week** for newborns in the Nandurbar district.
- Note ➜ The National Nutrition Mission guidelines of the Centre recommend **28 grams** of weight gain per day.
- Need ➜ High exclusive breastfeeding rate **wasn't helping in reducing malnutrition** among children. Due to incorrect breastfeeding techniques, the **milk wasn't reaching the babies' stomach** was the main reason behind it.

3. Tele MANAS

Why in News?

On the occasion of World Mental Health Day, Tele Mental Health Assistance and Networking Across States (Tele MANAS) initiative was launched.

About

- The programme includes a **network of 23 tele-mental health centres of excellence**.
- Aim ➔ To provide **free tele-mental health services all over the country** round the clock, particularly catering to people in remote or under-served areas.
- Initiated by ➔ **Union Ministry of Health & Family Welfare**
- Nodal Centre ➔ National Institute of Mental Health and Neurosciences (**NIMHANS**), **Bengaluru**.
- Technology support ➔ **International Institute of Information Technology-Bangalore (IIITB)**.
- Functioning ➔ A **toll-free, 24/7 helpline number (14416)** has been set up across the country allowing callers to select the language of choice for availing services. The calls would be **routed to Tele-MANAS cells** in the respective state and union territory.
- Tele-MANAS will be organised in two tier system ➔
  - **Tier 1** - Tele-consultation by trained counsellors and mental health specialists.
  - **Tier 2** - Physical and/or audio visual (e-Sanjeevani) consultation by specialists at District Mental Health Programme (DMHP)/Medical College resources.

4. Global Hunger Index

Why in News?

This year's Global Hunger Index, 2022 has been released.

About

- What is it? ➔ The Global Hunger Index (GHI) is a **tool for comprehensively measuring and tracking hunger** at global, regional, and national levels.
- Indicators ➔ GHI scores are based on the values of four component indicators – **undernourishment**, **child stunting**, **child wasting** and **child mortality**.
- The GHI score is **calculated on a 100-point scale** reflecting the severity of hunger - zero is the best score (implies no hunger) and 100 is the worst.
- The GHI is prepared by **European NGOs of Concern Worldwide and Welthungerhilfe**.
- The GHI is an annual report and each set of GHI scores **uses data from a 5-year period**. The 2022 GHI scores are calculated using data from 2017 through 2021.

☞ **Key findings**

- **India ranks 107** out of 121 countries on the Global Hunger Index in which it fares worse than all countries in South Asia barring war-torn Afghanistan.
- India's **score of 29.1 places** it in the 'serious' category. India also ranks below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99).
- Top and Worst Performers ➔
  - **Belarus**, **Bosnia & Herzegovina**, **Chile**, **China** and **Croatia** are the **top five** countries in GHI 2022.
  - **Chad**, **Democratic Republic of Congo**, **Madagascar**, **Central African Republic** and **Yemen** are the countries ranked at the **bottom** of the index.

5. Multidimensional Poverty Index

Why in News?

The Global Multidimensional Poverty Index(MPI) 2022 has been released.

About

- Produced by ➔ Multidimensional Poverty Index(MPI) is jointly produced by **UNDP** and the **Oxford Poverty and Human Development Initiative**(OPHI).
- Purpose ➔ It is a key international resource that **measures acute multidimensional poverty** across more than 100 developing countries.
- It complements traditional monetary poverty measures by **capturing the acute deprivations in health**, **education**, and **living standards** that a person faces simultaneously.
- Parameters ➔ MPI constructs a deprivation profile of each household and person through **10 indicators** spanning **health**, **education** and **standard of living**. All indicators are **equally weighted** within each dimension.
- The global MPI identifies people as **multidimensionally poor if** their deprivation score is **1/3 or higher**.
- Calculation ➔ The MPI is calculated by **multiplying the incidence of poverty** and the **average intensity of poverty**. The MPI ranges from **0 to 1**, and higher values imply higher poverty.
- By identifying who is poor, the nature of their poverty (their deprivation profile) and how poor they are (deprivation score), the global MPI complements the **international $1.90 a day poverty rate**, which was **revised** by the World Bank last month **to $2.15 per day**.

☞ Key findings

- Globally ➔ Out of the total 610 crore people across 111 developing countries, **19.1% or 120 crores** live in multidimensional poverty. Nearly **half of them live in severe poverty**.
- India ➔ The incidence of poverty **fell from 55.1% in 2005/06 to 16.4% in 2019/21** in the country.
  - As many as **41.5 crore people** exited poverty in India during the 15-year period between 2005-06 and 2019-21, out of which **two-thirds exited in the first 10 years** and **one-third in the next five years**.

6. Draft National Credit Framework

Why in News?

The Union Minister of Education and Minister of Skill Development & Entrepreneurship have launched the draft of the National Credit Framework(NCrF) for public consultation.

About

- NCrF has been developed to enable the **integration of academic and vocational domains** to ensure flexibility and mobility between the two
- Aim ➔ It aims to **formulate a unified credit accumulation and transfer for general and vocational studies**, and from school to higher education.
- It will be launched as a **part of the implementation of the National Education Policy (NEP) 2020**, which advocates that there should be "**no hard separations**" between vocational and academic streams.
- The NCrF will be operationalised through the **Academic Bank of Credits**(ABC).
- **Aadhaar will be used** for student registration, and each candidate will be assigned an **academic bank account number**, where degrees and credits will be accumulated.
- What are the proposed benefits of NCrF? ➔
  - Students: NCrF will **ensure flexibility in the duration of study/courses** through provisions of **multiple entries and exit/work options** as well as pave the **path for creditisation** of all learning hours, including academic, vocational and experiential learning. It will also give the provision for **lifelong learning** – **anytime anywhere learning**.
  - Institutions: NCrF will bring about a **unification of higher education institution**s to promote multidisciplinary education, creating a diverse and rich student knowledge base.
  - Government: NCrF is expected to assist the government to **increase the enrolment of students**, helping to fulfil the national vision of complementing the demographic dividend and transforming India into the Skill Capital of the World.

o Industry: NCrF will allow students to **attain NSQF-approved foundational skills developed by industry** and **be more employable**. The provision of micro-credentials will allow integration of quick educational upgradation/up-skilling.

7. Honesty Shops

Why in News?

The 'honesty shops' were opened in nearly 15 schools in Kerala's Ernakulam district.

About

- It was launched in **2008**.
- It is **part of the Student Police Cadet (SPC) project**.
- It was conceived to **inculcate better civic sense** among students and mould them as responsible youth who will react positively to the demands of society.
- There is **no salesman** at these counters and **students can drop the money** for each item in the collection box kept on a table.

8. Pradhan Mantri Awas Yojana - Urban (PMAY-U)

Why in News?

In the Pradhan Mantri Awas Yojana - Urban (PMAY-U) awards 2021, Uttar Pradesh bagged the first position followed by Madhya Pradesh and Tamil Nadu at second and third place, respectively. Gujarat won five special category awards.

About

- Mission ➜ To achieve the goal of **Housing for All in Urban areas by 2022**, when the Nation completes 75 years of its Independence.
- Implementation ➜ The Mission will be implemented **during 2015-2022**.
- It is implemented by the **Union Ministry of Housing and Urban Affairs** (MoHUA).
- Features ➜ Under it, **central assistance** will be provided to Urban Local Bodies (ULBs) and other implementing agencies through States/UTs for:
  o **In-situ Rehabilitation of existing slum dwellers** using land as a resource through private participation
  o **Credit Linked Subsidy**
  o **Affordable Housing** in Partnership
  o **Subsidy for Beneficiary**-led individual house construction/enhancement.
- Funding ➜ Credit linked subsidy component will be implemented as a **Central Sector Scheme** while other three components will be implemented as Centrally Sponsored Scheme (CSS).
- Eligibility ➜ All **statutory towns as per Census 2011 and towns** notified subsequently would be eligible for coverage under the Mission.

9. Denotified Tribes

Why in News?

31st August marked the 70th year of the repeal of the Criminal Tribes Act, 1871.

About

- DNTs, the most vulnerable and deprived, are communities that were **'notified' as being 'born criminal'** during the British regime under **Criminal Tribes Act, 1871**.
- DNTs are a **heterogenous group engaged in various occupations** such as transport, keymaking, salt trading, entertaining — acrobats, snake charmers, jugglers — and pastoralists.
- Criminal Tribes Act, 1871 was **repealed by Habitual Offenders Act, 1952**.

Several DNTs were included in Scheduled Tribe (ST), Scheduled Caste (SC) and Other Backward Caste (OBC) lists because they come from diverse social backgrounds.

- As per Renke Commission, 2008, there are nearly **1,500 nomadic and semi-nomadic tribes** and **198 Denotified tribes**, comprising 15 crore Indians.
- **31 August** is celebrated as **Vimukta Jatis day** in India by the DNTs communities.

About Nomadic and Semi-Nomadic Tribes

- All **nomadic tribes (NTs) are not DNTs**, but **all DNTs are NTs**.
- Nomads and Semi-Nomads are **social groups who undertakes a fairly frequent**, **usually seasonal physical movement** as part of their livelihood strategy and moves from one place to another.
- Three types of nomadic communities:
  - **Hunter/trappers** of birds and animals, gamer, etc. such as Konda Reddis, Chenchus etc.
  - **Pastoral communities** such as Pardis, Guzzars, Banjaras, Bhils, Kurabas, Madhuras, etc.
  - **Peripatetic groups** of peddlers, fortune tellers, storytellers, acrobats, dancers and dramatists.

10. E-Baal Nidan Portal

Why in News?

National Commission for Protection of Child Rights (NCPCR) has revamped the online portal E-Baal Nidan.

About

- E-Baal Nidan is a **Complaint Management System of NCPCR**. Through this, any individual or organisation can file complaint relating to the violation of child rights through internet facilities.
- Some of the revamped features include:
  - **Bifurcation of complaints** based on subject matters like POCSO, Labour, Education etc.
  - **Tracking of complaints at every stage** in a more mechanised and time bound manner.
  - Option of **transferring complaints from NCPCR to the concerned State Commission**.

Security

1. Operation Garuda

Why in News?

The Central Bureau of Investigation has launched a multi-phase 'Operation Garuda' against illicit drug trafficking network, registering 127 new cases, arresting 175 people and seizing huge quantities of narcotic drugs.

About

- It was initiated in close coordination with Interpol and Narcotics Control Bureau, **for combating the smuggling of illicit drugs and psychotropic substances**, with special focus on the Indian Ocean region.
- Drug trafficking networks with **international linkages require law enforcement cooperation** across international jurisdiction.
- Objectives ➔ It **seeks to disrupt**, **degrade** and **dismantle drug networks with international linkages** through rapid exchange of criminal intelligence on drug trafficking and coordinated law enforcement actions across international jurisdiction through Interpol.

2. Chief of Defence Staff

Why in News?

Central government appointed the former head of eastern command Lt General Anil Chauhan (retired) as the new Chief of Defence Staff (CDS).

About

- History ➔ Its creation was recommended **in 2001 by a Group of Ministers** (GoM) that was tasked with studying the Kargil Review Committee (1999) report.
- CDS is in the rank of a **four-star General** with salary and perquisites equivalent to a Service Chief.
- Functions ➔ His core function will be to **foster greater operational synergy between the three service branches** of the Indian military and keep inter-service frictions to a minimum.
    - He also **heads** the newly created **Department of Military Affairs** (DMA) in the Ministry of Defence.
    - The CDS will be the **single-point military adviser** to the Defence Minister on matters involving all three services and the service chiefs will be obliged to **confine their counsel to issues pertaining to their respective services**.
    - As the head of DMA, CDS is vested with the authority in **prioritising inter-service procurement decisions** as **Permanent Chairman-Chiefs of Staff Committee**.
    - The CDS is also vested with the authority to **provide directives to the three chiefs**. However, he does not enjoy any command authority over any of the forces.
    - CDS is first among equals, he **enjoys the rank of Secretary** within the DoD (Department of Defence) and his powers will be confined to **only the revenue budget**.
    - He will also perform an **advisory role** in the **Nuclear Command Authority** (NCA).
- General Bipin Rawat was the **first CDS** in the country and was appointed **on December 31, 2019**.

3. Tri-services Missile Command

Why in News?

The government is considering setting up of a tri-services missile/rocket command on the lines of the space and the cyber command as the first steps toward military theatre commands.

About

- The proposed missile command will be **responsible for the deployment** of missile and rocket regiments against any hostile adversary. For instance, conventional missiles like BrahMos and Akash as well as Pinaka rockets will be **placed under one command for rapid deployment** against any adversary.
- The missile command will be on **similar lines as the tri-services cyber command** and **the space command**. This is because future wars will hardly have any contact between troops unless used for capturing enemy territory.
- Headed by ➔ **commanders of the three services** in **rotation**.
- Need ➔ The proposal to set up a missile command has been moved in the **aftermath of the May 2020 East Ladakh stand-off** with the PLA and the use of rockets and missiles in the Ukraine theatre by the Red Army.
- The PLA has deployed rocket regiments in the depth areas of occupied **Aksai Chin with missiles in the hinter in Tibet and Sinkiang region**.

4. Light Combat Helicopters

Why in News?

The indigenous Light Combat Helicopter (LCH), Prachand was formally inducted into the Indian Air Force (IAF).

About

- Designed and developed by ➔ **Hindustan Aeronautics Limited** (HAL).
- The LCH is the **first indigenous Multi-Role Combat Helicopter**.
- Technical specifications ➔ The LCH has been designed as a **twin-engine**, **dedicated combat helicopter of 5.8-ton class**, thus categorised as light.
  - It has a **maximum speed of 268 kilometers per hour**, a range of 550 kilometres, an endurance of over three hours and a service ceiling — the maximum density altitude to which it can fly — of 6.5 kilometres.
  - It has a **configuration for the pilot and co-pilot**. The copilot is also the **Weapon Systems Operator** (**WSO**). A pressurised cabin offers protection from nuclear, biological and chemical (NBC) contingencies.
  - The helicopter is equipped with a **countermeasure dispensing system** that protects it from enemy radars or infrared seekers of enemy missiles.
- Weapons and other technologies ➔ The helicopter possesses **modern stealth characteristics**, **robust armour protection** and **formidable night attack capability**. Onboard **advanced navigation system**, guns tailored for close combat and potent air-to-air missiles make the LCH especially suited for the modern battlefield.
- Unique features ➔ The LCH is the **only attack helicopter** in the world which can land and take off at an **altitude of 5,000 meters** with a considerable **load of weapons and fuel**, meeting the specific requirements laid out by the Indian Armed Forces.

5. Territorial Army

Why in News?

The 73rd Raising Day of Territorial Army was celebrated across the country on October 9.

About

- History ➔ The Territorial Army (TA) was raised **by the Britishers in 1920** through Indian Territorial Act of 1920 and it was org into two wings namely - **'The Auxiliary Force'** for Europeans & Anglo-Indians and **'The Indian Territorial Force'** for Indian Volunteers.
  - After Independence **Territorial Army Act was passed in 1948** and the Territorial Army was formally inaugurated by the first Indian Governor General **Shri C Rajagopalachari** on 09 Oct 1949.
- Role ➔ The Territorial Army is **part of Regular Army** and its present role is to **relieve the Regular Army** from static duties and **assist civil administration** in dealing with natural calamities and maintenance of essential services in situations where life of the communities is affected or the Security of the Country is threatened and to provide units for Regulars Army as and when required.

- Eligibility ➔
  - Any citizen between the **age of 18-42** can be a part of the service.
  - The **pensionable age** for a soldier below officer's rank in the TA is the same as that of a regular soldier — 15 years.
- Operations ➔
  - The TA units were also **actively involved in operations** during the **1962**, **1965** and **1971 wars**.
  - Since 2020, the Indian military has been **recalibrating the TA for better operational and intelligence roles**, especially in the Andaman Islands to keep an eye out for possible Chinese intrusions in the region.
- Motto ➔ The motto of the Territorial Army of India is '**Savdhani Va Shoorta**' (Vigilance and Valour).

6. Manesar Anti-Terror Exercise 2022

Why in News?

The National Security Guard (NSG) is holding a multinational Joint Anti-Terror Exercise (JATE) recently, under the Regional Anti-Terrorist Structure (RATS) of the Shanghai Cooperation Organisation (SCO) framework.

About

- The multinational Joint Anti-Terror Exercise (JATE) is an **annual Counter Terrorist Exercise** held within the framework of the **SCO-RATS**.
- This year's JATE titled '**Manesar-Antiterror-2022**' is held at NSG Manesar campus in Gurugram.
- Eight representatives from National Counter Terrorism Forces of **Kazakhstan**, **Kyrgyz Republic**, **Uzbekistan**, **Russian Federation** and **NSG of India** are participating.
- The exercise is aimed at **exchanging expertise**, **best practices** and **build synergy** between the Counter Terrorism forces of the SCO-RATS member countries.

👉 Shanghai Cooperation Organisation

- Shanghai Cooperation Organisation (**SCO**) is an **eight-member regional economic and security bloc**.
- The SCO summit 2022 was held at **Samarkand**, **Uzbekistan** and SCO adopted the Samarkand Declaration.
- **India will be the Chair** of Shanghai Cooperation Organisation (SCO) in 2023.

👉 Regional Anti-Terrorist Structure (RATS)

- It is one of the **permanent organ of the SCO**.
- It aims to **facilitate cooperation and coordination** to combat terrorism, separatism and extremism.

7. INS Tarkash

Why in News?

The Indian Navy was represented by INS Tarkash in the 7th edition of IBSAMAR exercise held at Port Gqeberha (also known as Port Elizabeth), South Africa.

About INS Tarkash

- INS Tarkash is a **state-of-the-art stealth frigate** of the Indian Navy.
- It is the **5th Talwar-class frigate** constructed for the Indian Navy, built at the **Yantar shipyard in Kaliningrad, Russia**.
- It is equipped with a **versatile range of weapons and sensors** capable of addressing threats in all three dimensions.
- Talwar Class warships active in Indian Navy ➔ **INS Talwar**, **INS Trishul**, **INS Tabar**, **INS Teg**, **INS Tarkash**, **INS Trikand**.
- Talwar class frigates are guided missile frigates **designed and built by Russia**.
- These frigates are **armed with BrahMos supersonic missiles**.
- Talwar frigates are designed to **detect and eliminate enemy submarines** and **large surface ships**.

👉 IBSAMAR

- It is a joint multinational maritime exercise, among the **Indian**, **Brazilian** and **South Africa navies**.
- Objective: **Strengthening maritime relations**, **promoting joint operational military training**, **combating maritime crimes**, **securing Sea Lines of Communication** and enhancing interoperability to pursue common evolutions at sea.
- The **previous edition** of IBSAMAR (IBSAMAR VI) was conducted in **South Africa in 2018**. The fifth edition of IBSAMAR was conducted in Goa in 2016.

👉 **IBSA**

- It is a **unique Forum** that brings together **India**, **Brazil** and **South Africa**. The grouping was formalized and named the IBSA Dialogue Forum when the Foreign Ministers of the three countries **met in Brasilia in 2003 and issued the Brasilia Declaration**.

8. Interpol

Why in News?

The General Assembly of the International Criminal Police Organisation (Interpol) is meeting in Delhi for four days. This is the second time since 1997 the 195-member-strong body is holding such a large conference in India.

About

- Background ➜ Set up in **1923**.
- Interpol is a **secure information-sharing platform** that facilitates criminal investigation of police forces across the globe through the collection and dissemination of information received from various police forces.
- It **keeps track of the movements of criminals** and **those under the police radar** in various regions and tips off police forces which had either sought the Interpol's assistance or which in its opinion will benefit from the particulars available with it.
- How is Interpol organised? ➜
  - Head: **President**. He is **elected by the General Assembly**. He comes from one of the member nations and holds office for four years.
  - Day-to-day activities: These are overseen by a **full-time Secretary General** elected by the General Assembly, who holds office for five years.
  - The **General Assembly lays down the policy for execution** by its Secretariat which has several specialised directorates for cybercrime, terrorism, drug trafficking, financial crime, environmental crime, human trafficking, etc.
- What is the Red notice? ➜
  - It is a **structured communication issued by Interpol** to all member nations notifying the name(s) of **persons against whom an arrest warrant is pending** in a particular country.
  - The notice issued requests all member nations that if the named individual(s) is located in their country **immediate communication should be sent to the nation** that wants him in connection with a criminal investigation.

9. Kamikaze Drones

Why in News?

Recently, Russia attacked Kyiv with a swarm of Iranian Kamikaze drones.

About

- These are **small unmanned aircraft** that are packed with explosives that can be **flown directly at a tank or a group of troops** that are destroyed when it hits the target and explodes.
- They are called **Switchblade** because their bladelike wings spring out on launch.

- The drones have the capability of **going past traditional defences to strike its targets** and also cost a fraction of what the larger counterparts do.
- These small lethal drones are **difficult to detect on radar**, and they can even be **programmed to hit targets** without human intervention, based on facial recognition.
- Countries Possess such Drones ➔ Although the Kamikaze might be the **most advanced form of this genre of drones**, **Russia**, **China**, **Israel**, **Iran** and **Turkey** all have some version of it.
- Key features ➔
    - Light Weight: Weighing **just five-and-a-half pounds**, including its small warhead, the Switchblade can be taken into battle in a backpack and fly **up to 7 miles to hit a target**.
    - Can Adjust Blast Radius: The **Switchblade** has a feature that allows the operator **to adjust the blast radius**.
    - Cameras for Centralised View of Area of Operation: The Switchblade also has **cameras** that **show a target seconds before impact**.

10. Rustom-2

Why in News?

Indigenous UAV Rustom-2   is expected to complete user trials by August 2023.

About

- It is an indigenous **Medium Altitude Long Endurance** (MALE) UAV.
- Designed and developed by ➔ It has been designed and developed by the **Aeronautical Development Establishment** (**ADE**), **Bengaluru**, with the production partners being HAL and Bharat Electronics Ltd.
- It is being developed to **carry out surveillance and reconnaissance (ISR) roles** and is capable of carrying different combinations of advanced payload and capable of auto landing, among others.
- In December 2021, Rustom-2 had crossed a milestone by reaching an **altitude of 25,000 feet** and **an endurance of 10 hours**.
- In the past, Rustom-2 technologically **matched the contemporary UAVs available** and would **also be cheaper than** the imported ones while meeting the requirements of the three Services.

11. Mission DefSpace

Why in News?

Prime Minister (PM) Narendra Modi recently launched Mission DefSpace in Gandhinagar. He also unveiled the HTT-40 (Hindustan Turbo Trainer-40) indigenous trainer aircraft.

About

- Aim ➔ To **develop innovative solutions for the three Services** (Indian airforce, Navy and Army) in the space domain through the Indian industry and start-ups.
- To **develop a range of military applications** for space warfare and to enable the private industries to offer solutions to the armed forces for future offensive and defensive requirements.
- Under the mission, **75 challenges** are being opened to get innovative solutions, based on the defence requirements in the space domain.
- **Startups**, **innovators** and **the private sector** will be invited to find solutions for the problems that will include both offensive and defensive capabilities.

👉 HTT-40 Indigenous Trainer Aircraft

- HTT-40 is a **basic training aircraft** developed by **Hindustan Aeronautics Limited** (HAL) for the Indian Air Force (IAF).
- It will replace the ageing fleet of HAL HPT-32 Deepak trainers that are in service with the IAF.
- Features ➔ It **takes off from a short distance** and has a **high climb rate**.

- It has a maximum speed of **450km/h** and can reach a maximum distance of **1,000 km**. The stall speed with flaps down is **135 km/h**.

12. Scorched-Earth Tactics

Why in News?

German chancellor accuses Russia of using scorched-earth tactics in Ukraine.

About

- What is it? ➔ It is a form of a military strategy **which destroys anything that could be of use to the enemy**, including energy supplies, bridges, provision stores, agricultural fields, road and railway links, etc.
- The destruction could be **carried out by the enemy**, or **by the retreating army of a country** which does not want invaders to use its resources.
- Harming civilians as part of this strategy has been **banned under the 1977 Geneva Convention**.
- The strategy seeks to **deplete the enemy's resources to sustain warfare**, and **also break their morale** by inflicting heavy hardships on combatants and non-combatants alike.

☞ **Past Instances**

- Ancient Times ➔ The **nomadic herders Scythians** would hide in the steppes after destroying food supplies and poisoning wells.
- Modern Era ➔ During the **American civil war in 1864**, when Union General **William Tecumseh Sherman** and his soldiers burnt everything in sight as they marched through Confederate areas.
    - In **1915**, **the Imperial Russian Army**, **when retreating from the Imperial German Army**, destroyed anything that could serve the invaders for more than 600 miles, including crops, railway lines, and dwellings.
    - In **1941**, the **Russian army again destroyed** telegraph networks and electrical and industrial resources when invaded by Germany.
- In India ➔ In India, the **armies of Maratha** leader Chhatrapati Shivaji were known for their scorched earth tactics.

13. Agni-Prime Missile

Why in News?

India has successfully test-fired indigenously-developed new generation medium-range ballistic missile Agni Prime from the Odisha coast.

About

- Agni-P is a **new generation advanced variant** of the Agni class of missiles.
- It is the **sixth missile** in the Agni series of ballistic missile.
- It is a **two-staged canisterised missile** with a range capability between **1,000 and 2,000 km**.
- Many advanced technologies including **composites**, **propulsion systems**, **innovative guidance and control mechanisms** and **state-of-the-art navigation systems** have been introduced.
- Significantly, it **weighs 50 per cent less** than the Agni 3 missile and has new guidance and propulsion systems
- The missile strengthens India's **credible deterrence capabilities**.

☞ **Agni Missiles**

- Agni missiles are **long range**, **nuclear weapons capable surface to surface ballistic missile**.
- The first missile of the series, Agni-I was developed under the **Integrated Guided Missile Development Program (IGMDP)** and tested in **1989**.
- Variants of Agni missiles ➔
    - **Agni I**: It is a Medium Range Ballistic Missile with a Range of 700-800 km.

- o **Agni II**: It is also a Medium Range Ballistic Missile with a Range more than 2000 km.
- o **Agni III**: It is also an Inter-Medium Range Ballistic Missile with Range of more than 2,500 Km
- o **Agni IV**: It is also an Inter-Medium Range Ballistic Missile with Range is more than 3,500 km and can fire from a road mobile launcher.
- o **Agni-V**: Currently it is the longest of Agni series, an Inter-Continental Ballistic Missile (ICBM) with a range of over 5,000 km.
- o **Agni- VI**: The longest of the Agni series, an Inter-Continental Ballistic Missile (ICBM) with a range of ICBM 11,000–12,000 km.

14. Dirty Bomb

Why in News?

Moscow has recently accused that Kyiv might be planning to use a so-called dirty bomb.

About

- A dirty bomb is a **mix of explosives**, such as dynamite, with radioactive powder or pellets.
- A dirty bomb **works completely differently** from an atomic bomb.
- **For example**, **an atomic bomb**, like those bombs dropped on Hiroshima and Nagasaki, involves the splitting of atoms and a huge release of energy that produces the atomic mushroom cloud.
- But a dirty bomb **uses dynamite or other explosives** to scatter radioactive dust, smoke, or other material in order to cause radioactive contamination.
- The **immediate health impact** of this eventwas believed to be **limited**, since most people in an affected area would be able to escape before experiencing lethal doses of radiation.
- But the **economic damage could be massive** from having to evacuate urban areas or even abandon whole cities.
- For example, a bomb using radioactive cesium might **require the evacuation of an entire area**, making it unsafe for decades.

15. HAWK Air Defense Equipment

Why in News?

The United States is considering sending older HAWK air defense equipment from storage to Ukraine to help it defend against Russian drone and cruise missile attacks.

About

- HAWK, short for '**Homing All the Way Killer**', entered service with the US Army in 1959, during the Vietnam War.
- It is a **mobile air defense system**.
- It is a **medium-range surface to air missile**.
- It underwent upgrades over the decades that followed, including a major one in 1971 that produced the so-called **I-HAWK** (or improved HAWK), **with a kill probability of 85%**.
- The first versions of the system had a **range of 25 km** for aerial targets, and an **altitude of 14 km**. After modernization: the maximum target interception range **increased to 40 km with a maximum interception altitude of 18 km**.
- The HAWK system was the predecessor to the **PATRIOT missile defence system** that Raytheon built in the 1990s.
- US forces largely **stopped using HAWK** from the early years of the new century.

16. Counter-Terrorism Committee

Why in News?

India is hosting a special meeting of the United Nations Security Council's Counter Terrorism Committee(CTC).

About

- The Counter-Terrorism Committee(CTC) was established **by the UN Security Council resolution 1373** (**2001**), which was adopted unanimously on 28th September 2001 in the wake of the 11 September terrorist attacks in the United States.
- Mandate ➔ The Committee **comprising all 15** Security Council members were **tasked with monitoring the implementation of resolution 1373 (2001)** which requested countries to implement a number of measures intended to enhance their legal and institutional ability to counterterrorist activities at home, in their regions and around the world.
    o The resolution also calls on States to become parties, as soon as possible, to the relevant international counter-terrorism legal instruments.
- Chaired by ➔ The **Permanent Representative of India** to the UN currently serves as the Chair of the CTC for 2022.

👉 **Purpose of the UNSC Counter Terrorism Committee(CTC) meeting in India**

- UNSC Counter Terrorism Committee(CTC) will discuss the overarching theme of '**Countering the use of new and emerging technologies for terrorist purpose**s'.
- The panel will also **discuss terror financing** through crypto-currency and the use of drones in new-age terrorism.
- This will be the **first such meeting** of the UNSC-CTC in India since its establishment in 2001.

17. National Investigation Agency (NIA)

Why in News?

Union Home and Cooperation Minister recently said that National Investigation Agency (NIA) agency to have offices in all states by 2024.

About

- What is it? ➔ National Investigation Agency (NIA) is the **Central Counter Terrorism Law Enforcement Agency** of India.
- Parent agency ➔ **Union Ministry of Home Affairs**.
- Establishment ➔ NIA was created after the 2008 Mumbai terror attacks with the enactment of the **National Investigation Agency Act 2008**.
- Jurisdiction ➔
    o The agency is **empowered to deal with terror related crimes** across states without special permission from the states.
    o A State Government may request the Central Government to **hand over the investigation of a case to the NIA**, provided the case has been registered for the offences as contained in the schedule to the NIA Act.
- NIA special courts ➔
    o **Various Special Courts** have been notified by the Govt. of India for trial of the cases arising out of offences committed in various states of the Union.
    o These are **presided over by a judge** appointed by the Central Government on the recommendation of the Chief Justice of the High Court with jurisdiction in that region.
- Offices ➔
    o It is headquartered in **Delhi**.
    o Branches: **Hyderabad**, **Guwahati**, **Kochi**, **Lucknow**, **Mumbai**, **Kolkata**, **Raipur**, **Jammu**, **Chandigarh**, **Ranchi**, **Chennai** and **Imphal**.

18. Exercise SIMBEX

Why in News?

The Indian Navy is hosting the 29th edition of the Singapore-India Maritime Bilateral Exercise (SIMBEX) at Visakhapatnam.

- What is it? ➜ SIMBEX is a joint maritime bilateral exercise **between Indian and Singapore navies**.
- The exercise began in **1994** and was initially known as Exercise Lion King.
- Objective ➜ To **enhance interoperability** amongst the navies and underscore the shared responsibility of the countries to work together to **keep sea lines of communications open**.
- SIMBEX-2022 is being conducted in two phases – **Harbour Phase at Visakhapatnam** followed by the **Sea Phase in the Bay of Bengal**.
- Other exercises between India and Singapore ➜
    - **Exercise SITMEX**: It is a bilateral maritime exercise between the Republic of Singapore Navy (RSN), Royal Thailand Navy(RTN) and Indian Navy(IN). It was conducted for the first time in 2019.

19. Exercise Garuda

Why in News?

Indian Air Force(IAF) and French Air and Space Force(FASF) are participating in a bilateral exercise named 'Garuda VII' at Air Force Station Jodhpur.

About

- What is it? ➜ Exercise Garuda is a bilateral exercise **between the Indian and French Air Force**.
- The first edition of the exercise was held in **2003**. This is the **seventh edition** of the bilateral exercise.
- Aim ➜ To provide a platform for both countries to **enhance operational capability and interoperability**, while also sharing best practices.
- Other exercises between India and France ➜
    - **Exercise SHAKTI**: It is a biennial military exercise conducted between India and France. It was first conducted in the year 2011.
    - **Exercise Varuna**: It is a bilateral naval exercise between India and France. ·
    - **Exercise La Pérouse**: It is a multilateral maritime exercise led by the French Navy. The Indian Navy participated in this exercise for the first time in 2021.

20. Goa Maritime Symposium (GMS) 2022

Why in News?

The fourth edition of the Goa Maritime Symposium (GMS) is being conducted by the Naval War College (NWC) at Goa from 31 October to 01 November 2022.

About

- Theme ➜ The theme of GMS-2022 is "**Maritime Security Challenges in the Indian Ocean Region**: Converting Common Maritime Priorities into Collaborative Mitigation Frameworks".
- The theme is underpinned by the idea of '**Security and Growth for All in the Region**' (**SAGAR**) and **five principles of Maritime Security** enunciated by the Hon'ble Prime Minister of India.
- The participants of the Symposium comprise Captains/ Commanders and equivalent-rank officers from Navies/ Maritime forces from friendly foreign countries viz., **Bangladesh**, **Comoros**, **Indonesia**, **Madagascar**, **Malaysia**, **Maldives**, **Mauritius**, **Myanmar**, **Seychelles**, **Singapore**, **Sri Lanka**, and **Thailand**, besides India.

👉 **Goa Maritime Symposium (GMS):**

- It was conceptualised and instituted **by the Indian Navy in 2016**.
- It is a forum for **fostering collaborative thinking**, **cooperation** and **mutual understanding** between India and key maritime nations of the Indian Ocean Region (IOR).

- The symposium is conducted biennially by the **Naval War College** (**NWC**), Goa, and three editions of the event have been organised thus far.

History and Culture

1. Shyamji Krishna Varma

Why in News?

Prime Minister has paid tributes to Shyamji Krishna Varma on his Jayanti.

About

- He was born on **4th October, 1857** in Mandvi town of Kachchh district of Gujarat.
- He was one of the **foremost freedom fighters** in the history of the freedom movement of India with a **high sense of patriotism and selfless service** for the nation.
- He had organised a revolutionary centre in "**India House**" **at London** and propagated the cause of India's independence through his writings in his publication journal called ``**TheIndian Sociologist**".
- He **inspired Veer Savarkar** who was a member of India House in London.
- He became the **first President of Bombay Arya Samaj**, was an admirer of Dayanand Saraswati
- Verma also served as the **Divan of a number of states** in India.

2. Pahari Community

Why in News?

Paharis of Jammu, one of the communities which has long-standing demand for the Scheduled Tribe status.

About

- The Pahari community is a linguistic group mainly residing in the **Pir Panjal valley** comprising Rajouri and Poonch districts in J&K.
- Paharis are also spread in **parts of the Kashmir valley**.
- Gujjars, Bakerwals and Paharis are **non-Kashmiri speaking** population of J&K.
- Paharis comprise **both Hindus and Muslims**.
- But the two prominent nomadic clans, **Bakerwals and Gujjars follow Islam**.
- According to **Article 342(1)**, the President of India declares a tribe as Scheduled Tribe, after consulting with the Governors of respective states.
- The Gujjar -Pahari rift ➔ Bakerwals and Gujjars are **given ST status in J&K**.
  - At present, there is **10% reservation** in jobs for STs in J&K and they feel this **reservation will be diluted**, if Paharis were granted ST status.
  - Bakerwals and Gujjars are arguing that ST status is **not granted on the basis of linguistics** though the Constitution does not define or specify any criteria.

3. The Chola Dynasty

Why in News?

The Tamil Movie Ponniyin Selvan-1 brought the focus to the 10th-century Chola Kingdom.

About

- The Imperial Chola dynasty was founded by the **King Vijaylaya**, a feudatory of the Pallavas.
- The Chola kingdom stretched across present-day **Tamil Nadu**, **Kerala**, and **parts of Andhra Pradesh and Karnataka**.
- The period of Cholas was around **9th to 12th century AD**.
- The **Rashtrakutas** of the Deccan and the **Chalukyas** of the Andhra Pradesh **were contemporaries** to the Cholas.
- The **naval supremacy of the Cholas**, allowed them to conquest lands as far as Malaysia and the Sumatra islands of Indonesia.

- Administration ➔ The **king remained the central authority** who would make the major decisions and carry out the governance.
  - The massive kingdom was **divided into provinces** which were known as **mandalams**.
  - **Separate governors** were held in charge for each mandalam.
  - These were further **divided into district**s called **nadus** which consisted of tehsils.
  - The system of rule was such that each village acted as a **self-governing unit** during the era of the Cholas.
- Architecture ➔ They constructed **grand trunk roads and public ferries**, in addition to grand temples.
- The Cholas are more prominent in making **structural temples**.
  - The **Great Living Chola Temples** have been classified as World Heritage Sites by UNESCO.
  - The site includes **three great 11th- and 12th-century temples**
    - the Brihadisvara temple,
    - the Gangaikondacholisvaram and
    - the Airavatesvara temples
  - The grand Brihadeeswara temple of Thanjavur, **built by Rajaraja I,** was the **largest building in India** in that period.
  - **Rajendra Chola**, the son of Rajaraja, also known as **Gangaikonda Chola** (the Chola who conquered Ganga) **built the Chola capital at Gangaikondacholapuram**.
  - The medieval Chola Empire began to **decline from 1070 CE**, after the death of Virarajendra Chola, the son of Rajendra Chola.
- Literature ➔ Several devotional literature took shape during this period.
- **Jain and Buddhist writings** also got appreciation and recognition during this phase.
- The popular **I** a compilation of 4000 Tamil verses is from this period.

4. Nobel Prize in literature

Why in News?

Recently, French author Annie Ernaux has won the Nobel Prize in literature for 2022.

About contributions of Annie Ernaux

- Annie Ernaux **works range from** a history of France, her first sexual experience and the shame around it, her mother's illness and death to her abortion to her class-linked shame. She uncovered the roots, estrangements and collective restraints of personal memory with clinical acuity and courage.
- She consistently and from different angles, **examines a life marked by strong disparities regarding gender**, **language** and **class**.
- She uses **songs**, **slogans**, **meals from the time** she is writing about, which many say blurs the line between fiction and autobiography.

👉 About Annie Ernaux's literary works

- She has written over thirty literary works. Some of her famous literary works include,
- **'L'occupation' (2002**) ➔ In this, she dissects the social mythology of romantic love. She confesses and attacks a self-image built on stereotypes in this work.
- **The Years** ➔ It was translated into English and was shortlisted for the Man Booker international prize.
- **Happening**(**2001**) ➔ It was based on her abortion. It explains about the illegal abortion in the 1960s. The book brought limelight about abortion after abortion rights were curtailed in the US.
- **A Girl's Story**(**2016**) ➔ It was built on her own experiences at a children's camp, that deals with the shaming an 18-year-old girl is subjected to for her sexuality.
- **Getting Lost (2022)** ➔ It talks about her affair with a Russian diplomat, she was divorced, and he was married. It is a rare clear-eyed account of female desire.

- Awards & Recognition ➜
    - Her works overall have received the **French language prize** and the **Marguerite Yourcenar prize**.
    - In 2014 she was awarded an **honorary doctorate** by the University of **Cergy-Pontoise**.
    - Her work "**The Years**" was shortlisted for the **Man Booker International prize**.

5. Rosetta Stone

Why in News?

According to a Reuters report, the UK is being asked to return the Rosetta Stone.

About

- The Rosetta Stone is a **large stone slab with inscriptions on it** and is believed to be a piece of a bigger rock. It has inscriptions in **three scripts**, all of which convey a decree or public message.
- This is **similar to** how in Ancient India, **King Ashoka ordered stambhas or edicts** that had messages of Buddha's teachings and news about victory in a war inscribed.
- Significance of Rosseta stone ➜
    - It holds the key to **understanding Egyptian hieroglyphs**
    - Archeological significance: stone's age is at well **over 2,000 years**.

6. Kurdish Community

Why in News?

Recently, the Iranian Kurds began nationwide protests over the death of a young Iranian Kurdish woman in the custody of Iran's morality police.

About

- Kurds are an **ethnic-linguistic group** that inhabit the middle-east and are spread across the border regions of four countries.
- Kurds are **mainly Sunni Muslims** who speak a language related to **Farsi**.
- They live mostly in a **mountainous region** straddling the borders of **Armenia**, **Iraq**, **Iran**, **Syria** and **Turkey**.
- Their demands have varied from **wanting a separate country** (Kurdistan) for themselves to demanding greater autonomy within the framework of the existing states.
- Iranian Kurds ➜ Around 8 million to 10 million Kurds lives in Iran, who form about 10% of the population.
    - Kurds (Sunnis) are minority in **Shia-dominated Iran**.
    - Kurds in Iran have **long suffered deep-rooted discrimination**.
    - Kurdish regions in Iran have been **economically neglected**, resulting in entrenched poverty.

7. Mahakal Lok Corridor

Why in News?

PM will inaugurate the first phase of Ujjain's Mahakaleshwar temple expansion — Mahakal Lok Corridor.

About

- The project — **Mahakal Maharaj Mandir Parisar Vistar Yojna** — is a comprehensive development plan for the expansion, beautification and decongestion of the Mahakaleshwar temple premises.
- The first phase of the project entails the development of **Mahakal Lok Corridor** with a visitor plaza having two entrances — **Nandi Dwaar and Pinaki Dwaar**.

- A **900-metre-long pedestrian corridor** has been built connecting Mahakal temple to 108 murals and 93 statues of Lord Shiva along the way.

8. Hampi and Khajuraho Temples

Why in News?

The Government plans to include Hampi, Khajuraho as venues to host meetings as part of G20 'culture track' and India's G20 Presidency. India is the Chairman of G20 for 2022-23 and is to host the 18th G20 summit 2023.

About Hampi

- The group of monuments at Hampi is located in the **Tungabhadra river basin in Bellary District, Karnataka**.
- Hampi is the **Capital City of the Vijayanagara Empire (**14th-16th Century CE).
    - Vijayanagara Empire was founded by **Harihara and Bukka in 1336**.
- Hampi is classified as a **World Heritage Site** by the UNESCO.
- Hampi is also known as the '**World's Largest Open-air Museum'**.
- Hampi structures belong to the **Dravidian architecture**.
- Few important sites in Hampi ruins ➔ **The Krishna temple complex**, **The Vitthala temple complex**, **Virupaksha Temple**, **Stone chariot Garuda shrine**, **Pattabhirama temple complex**, **Lotus Mahal complex**.
- The **Battle of Talikota** (1565 CE) led to a massive destruction of these structures in Hampi.
    - The recently released INR 50 currency note features the Stone Chariot of Humpi.

👉 **Khajuraho**

- Khajuraho temple monuments are located in the **Chattarpur district of Madhya Pradesh**.
- Khajuraho temples were built by the **Chandela Dynasty** in **Nagara-style** of temple architecture.
- The **23 temples** form the western, eastern, and southern clusters of the monument and belong to two different religions - **Hinduism and Jainism**.
- The temples are built in **sandstone** and has **nagara-style structures** like jagati (highly ornate terraced platform), jangha (the body) or shikhara (the tower).
- The **famous erotic sculptures** of khajuraho account for only 10% of all sculptures.
- Some of the famous temples are ➔
    - **Kandariya Mahadeva Temple** - It is the largest among the group. The chief deity is Lord Shiv
    - **Chitragupta Temple** - dedicated to Lord Surya.
    - **Chaturbhuja Temple** - This temple is the only temple in Khajuraho that does not have a single erotic sculpture.
    - **Parsvanatha Temple** is a Jain temple built using sand-stone. It also holds images of Lord Vishnu.
    - **Adinatha Temple**, **Santinatha Temple**, **Ghantai Temple** are the other famous Jain temples.

9. 2022 Booker Prize

Why in News?

Shehan Karunatilaka has won the Booker Prize 2022 for his second novel, The Seven Moons of Maali Almeida.

About

- The Seven Moons of Maali Almeida tells the **story of a war photographer** who has woken up dead in what seems to be a celestial visa office.
- He has '**seven moons'** **to try and solve the mystery of his death** and to help unveil a cache of photos that will rock war-torn Sri Lanka.

👉 **Booker Prize**

- The Booker Prize is the world's leading literary award **for a single work of fiction**.
- Founded in the **UK in 1969**, it initially awarded Commonwealth writers and now spans the globe and it is **open to anyone regardless of origin**.
- Each year, the Booker Prize is awarded to what is, in the opinion of our judges, the best sustained work of fiction **written in English and published in the UK and Ireland**.
- The winning book is a work that not only speaks to our current times, but also one that will **endure and join the pantheon of great literature**.

10. National Maritime Heritage Complex

Why in News?

The Prime Minister has reviewed the work in progress at the site of the National Maritime Heritage Complex at Lothal, Gujarat.

About

- Location ➔ National Maritime Heritage Complex(NHMC) will be developed in **Lothal region of Gujarat**.
- It would be developed as an **international tourist destination**, where the maritime heritage of India from ancient to modern times would be showcased.
- The idea is to **create an edutainment** (education with entertainment) approach for this destination that would be of great interest to the visitors.
- It is going to cover an **area of 400 acres**, with structures such as **Heritage Theme Park**, **National Maritime Heritage Museum**, **Lighthouse Museum**, **Maritime Institute**, **eco-resorts**, and **more**.
- There will also be **many pavilions** where all coastal states in India and union territories can showcase their artifacts and maritime heritage.
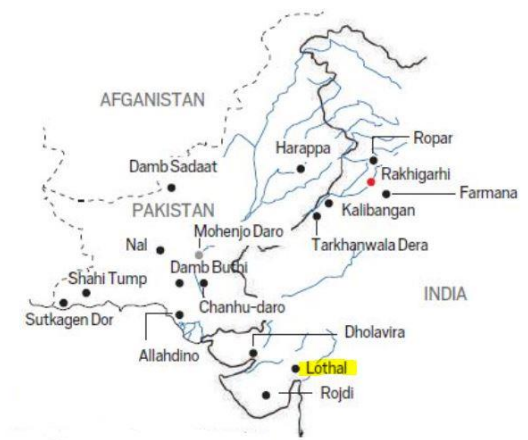
☞ About Lothal

- Lothal was one of the **prominent cities of the Harappan civilization**.
- The site is known for the discovery of the **oldest man-made dockyard** which was connected to an old course of the Sabarmati River.
- Other features include the **acropolis**, **the lower town**, **the bead factory**, **the warehouses**, and **the drainage system**.
- The site has been nominated to be enlisted as a **UNESCO World Heritage Site**.

11. Swadesh Darshan 2.0

Why in News?

The Ministry of Tourism has revamped its Swadesh Darshan scheme as Swadesh Darshan 2.0 (SD2.0) with an aim to develop sustainable and responsible infrastructure at destinations.

About

- The government launched the Swadesh Darshan Scheme in **2014-15** for the **integrated development of theme-based tourist circuits**.
- Ministry ➔ Swadesh Darshan Scheme is a **Central Sector scheme** under the Ministry of Tourism and Culture.
- Objective ➔ The scheme aims to **promote**, **develop** and **harness the potential of tourism** in India.
- Funding ➔ Under the Swadesh Darshan scheme, **Central Financial Assistance** is provided for the State Governments and Union Territory Administrations for the infrastructure development of circuits.

- The scheme was envisioned to **synergise with other government schemes** such as Swachh Bharat Abhiyan, Skill India and Make in India with the idea of positioning the tourism sector as a major engine for job creation.
- Some of the prominent circuits launched under this were the **Buddhist tourist circle**, **Ambedkar Tourist Circle** and **the North-East Tourist Circle**.

👉 **Swadesh Darshan 2.0**

- Swadesh Darshan 2.0 is the **revamped version** of the scheme.
- The scheme has been revamped with the mantra of "**vocal for local**". It moves away from theme-based tourist circuits and **focuses on reviving destination tourism**.
- It aims to **develop sustainable and responsible destinations** with a tourist and destination-centric approach.
- Under the scheme, **two to three destinations** each have been selected from 15 states. Some of the prominent places identified are **Jhansi and Prayagraj in Uttar Pradesh**, **Gwalior**, **Chitrakoot** and **Khajuraho in Madhya Pradesh** and **Ajanta and Ellora in Maharashtra**.

12. Tribal Youth Exchange Programme

Why in News?

The Ministry of Youth Affairs and Sports in collaboration with the Ministry of Home Affairs organised the 14th Tribal Youth Exchange Programme for the development of Tribal Youth.

About

- Organized by ➔ **Nehru Yuva Kendra Sangathan**(NYKS) with the support of the Ministry of Home Affairs since 2006.
- Aim ➔
  - 1) To **sensitize Tribal Youth to the Rich Cultural Heritage of India** and to enable them to appreciate the concept of unity in diversity, expose them to development activities and industrial advancement and
  - 2) To help the tribal youth to **develop emotional linkages with their peer groups** in other parts of the country and enhance their self-esteem.
- Benefits ➔ The tribes who are **residing in the remote corners** of the nation **do not have access** to first-hand information about what is happening elsewhere in the country. With more interaction of students and youth communities with their peer groups in other parts of the country, **the gap can be bridged**. Tribal youth exchange programmes are **designed to facilitate such interactions**.

13. Kashi-Tamil Sangamam Programme

Why in News?

Recently, The Union Government has announced a month-long programme named 'Kashi-Tamil Sangamam'.

About

- Aim ➔ To **rekindle the civilisational link between the new Kashi and Tamil Nadu** — both deep centers of knowledge.
- Part of ➔ The programme would be a part of the '**Ek Bharat Shreshtha Bharat'**.
- The programme would be held **from November 16 to December 16, 2022**.
- As part of the programme, **2,500 people divided into 12 groups** would be travelling to Varanasi by train during the period.
  - The groups would include **students**, **teachers**, **artisans** and **people from various walks of life**.
  - The tours would include **seminars**, **lectures**, **group meetings** and **visits to the Kashi Vishwanath temple** and centres of important Tamil cultural heritage in Varanasi.
- Knowledge Partners ➔ The knowledge partners for the programme would be **IIT-Madras** and **the Banaras Hindu University**, while the Uttar Pradesh government would be the host State.

14. Bhoota Kola

Why in News?

The recent Kannada movie Kantara opens up a controversy relates to the origins of Bhoota Kola, an annual ritual performance where local spirits or deities are worshipped.

About

- Bhoota Kola is an **annual ritual performance** where local spirits or deities are worshipped.
- It is believed that a person performing the ritual has **temporarily become a god himself**.
- This performer is both feared and respected in the community and is believed to **give answers to people's problems**, on behalf of the god.
- There are several '**Bhootas'** who are worshipped in the **Tulu-speaking belt of Dakshina Kannada**, **Uttara Kannada** and **Udupi districts of Karnataka**.
- It is usually performed in **small local communities and rural areas**.

15. Kittur Utsav

Why in News?

The two-day State-level Kittur Utsav is celebrated in Karnataka which has significance related to initial phase of Freedom struggle of India against the British in 1824.

About

- Kittur Utsav is a state-level festival, **celebrated in memory of Kittur Rani Channamma**, who had fought the British 30 years before the First War of Independence in 1857 but had not got any recognition at the national level.

👉 Kittur Chennamma

- Kittur Chennamma was the **Indian Queen of Kittur**, a former princely state in present-day Karnataka.
- Kittur Chennamma was born on **23 October 1778**, **in Kakati**, a small village in the present Belagavi District of Karnataka, India.
- She belonged to the **Lingayat community** and **received training** in horse riding, sword fighting, and archery from a young age.
- She **married Raja Mallasarja** of the Desai family at the age of 15.
- She **led an armed force** against the British East India Company in 1824 in **defiance of the doctrine of lapse** in an attempt to maintain Indian control over the region.
- She **defeated the Company** in the **first revolt** but died as a prisoner of war after the second rebellion.
- As one of the first and few female rulers to lead rebel forces against British colonization, she continues to be **remembered as a folk hero in Karnataka**, she is also an important symbol of the Indian independence movement.

👉 Doctrine of Lapse:

- The doctrine of lapse was an annexation policy applied by the British East India Company in India until 1859.
- Under the doctrine,the ruler of an independent state **died childless**, the **right of ruling the State reverted or 'lapsed' to the sovereign**.
- The policy is most commonly **associated with Lord Dalhousie** who was the Governor General of the East India Company in India between 1848 and 1856.
- However, it was **not solely his invention**. The East India Company had annexed **Kittur in 1824**, **Mandvi in 1839**, **Kolaba and Jalaun in 1840 and Surat in 1842** by imposing a 'doctrine of lapse'.

16. Mangarh Massacre of 1913

Why in News?

Ahead of PM Modi's visit to Mangarh Dham in Banswara district, Rajasthan CM has sought the declaration of the memorial for tribals as a monument of national importance.

About

- **Mangarh Dham** is known for the massacre of tribals by the British Indian Army in 1913.
- This place is widely referred to as **Adivasi Jallianwala**.
- About **1,500 Bhil tribals and forest dwellers were killed** at Mangarh on November 17, 1913, when the British Indian Army opened fire on the protesters.
- The people were gathered to **demand abolition of bonded labour system** and **relaxation in heavy agricultural taxes** imposed by the rulers of princely states.
- The tribals in the southern Rajasthan region were **led by social reformer Govind Guru**.

👉 Course of events

- **Govind Guru** started his movement among Bhils in the **early 1890s**.
- The movement had, as **its religious centrepiece**, the concept of a **fire god**, which required his followers to raise sacred hearths in front of which Bhils pray while performing the purifying havan called dhuni.
- In **1903**, the guru set up his **main dhuni on Mangadh Hill**.
- Mobilised by him, the Bhils placed a **charter of 33 demands** before the British by 1910 primarily relating to forced labour, high tax imposed on Bhils and harassment of the guru's followers by the princely states.
- The Bhil struggle for justice under Govind Guru took a serious turn after the **British and local rulers refused to accept** the demands and tried to break the Bhagat movement in 1913.

17. Khangkhui Cave In Manipur

Why in News?

The forest officials denied the planned extermination of the colony of bats from a Manipur cave system as stated by the zoological study.

About

- The Khangkhui Cave is a **natural limestone cave** locally called as **Khangkhui Mangsor**.
- Khangkhui Mangsor caves consists of **four major caves**.
- The cave was used as a **shelter by the local people** during World War II, after the Japanese forces advanced to Manipur and the adjoining Nagaland.
- The folklore of the **Tangkhul community**, believed the cave was the **abode of a protective deity**.
  - Tangkhul Nagas is an ethnic group living in the **Indo-Myanmar border** areas of Ukhrul and Kamjong districts of Manipur.
- The cave **housed large populations of bats** belonging to the Rhinolophidae and Hipposideridae families.
- Researchers recorded **Blyth's horseshoe bat** in the Khangkhui cave which was one of 12 new species added to Manipur's mammals.
- Archaeologists have discovered many **important artefacts**, dating back to the **Palaeolithic culture** from this cave.
- Other Palaeolithic sites in Manipur are
  - Songu Cave in Chandel District,
  - Machi in Chandel District and
  - Nongpok Keithelmanbi in Senapati District.

18. Tulu and Kodava

Why in News?

Speakers of Tulu and Kodava have opposed the draft of the Kannada Language Comprehensive Development Bill, 2022, which aims to ensure the "extensive use and propagation" of Kannada.

About Tulu

- Tulu is a **Dravidian language**.
- It is mainly spoken in **Udupi**, **Dakshina Kannada**, **Kasargod** and **the Western Ghats** had 17,22,768 speakers as per the 2001 census.
- The native speakers of Tulu are referred to as Tuluva or Tulu people and the geographical area is unofficially called **Tulu Nadu**.
- Features ➔ Separated early from **Proto-South Dravidian**, Tulu has several features not found in Tamil–Kannada. For example, it has the **past perfect and the future perfect**, like French or Spanish, but formed without an auxiliary verb.
- Status ➔ At present, Tulu is **not an official language** in the country.
- Tulu culture ➔ Tulu has a **rich oral literature tradition** with folk-song forms like **paddana**, and traditional folk theatre **yakshagana**.

☞ Kodava

- It is a **Dravidian language**.
- Kodava, which is also called **Coorgi**, is spoken mainly in **Kodagu district**.
- According to the 2001 census, the total number of Kodava speakers are 166,187, compared to 1,22,000 in the 1997 census.

19. Pradhanmantri Sangrahalaya

Why in News?

The Pradhanmantri Sangrahalaya has received over 1 lakh visitors till 30th September.

About

- What is it? ➔ The Pradhanmantri Sangrahalaya is a **tribute to every Prime Minister of India** since Independence and a narrative record of how each one has contributed to the development of our nation over the last 75 years.
- Located at ➔ **Delhi's Teen Murti Complex**.
- Logo ➔ The logo of the museum shows **hands holding the dharma chakra**, symbolizing the nation and democracy.
- Key Features ➔
  - People can witness the **memorable speeches** given by the Prime Ministers at the Red Fort.
  - The Sangrahalaya has a **state-of-the-art 360-degree immersive room** – without shadows, which ushers into the world of Indian Prime Ministers, showcasing their key contributions that shaped the nation.
  - The entrance of the Sangrahalaya is adorned with a **3D-printed levitating National Emblem**, **rotating in the air**.
- Significance ➔ Pradhan Mantri Sangrahalaya is a **living reflection of the shared heritage** of each government.
- It gives confidence to the youth of the country that even a person born in an ordinary family can reach the highest position in the democratic system of India.

20. Saka Panja Sahib

Why in News?

The gurdwara management bodies from both sides of the border — Amritsar-based Shiromani Gurdwara Parbandhak Committee(SGPC) and Pakistan Sikh Gurdwara Parbandhak Committee (PSGPC) — will jointly observe the 100 years of Shaheedi Saka Panja Sahib (martyrdom massacre) at Hasan Abdal city, Punjab province of Pakistan.

About

- Saka Panja Sahib is a heroic event that took place on **October 30, 1922**, **at Hasan Abdal railway station** close to the sacred shrine of Panja Sahib in Punjab province of Pakistan.
- On this day, **Sikhs** from nearby Panja Sahib **wanted to serve langar** (community kitchen food) **to the Sikh prisoners** but were told by the station master at Hasan Abdal station that the train would not stop at the station.
- In **protest**, the Sikhs **squatted on the railway tracks** and as the train approached, the Sikhs who were determined to halt the train continued to stay, **demanding their right to serve langar to the Sikh prisoners**.
- The train finally came to a screeching halt, but only after **crushing many Sikh protesters** — of whom **Bhai Karam Singh and Bhai Partap Singh died** after sustaining serious injuries.
- Since then, both Sikhs are hailed as **martyrs of Saka Panja Sahib** who sacrificed their lives fighting for the rights of Sikhs against the British.

👉 **About Gurdwara Panja Sahib**

- Gurdwara Panja Sahib is a famous gurdwara located in **Hasan Abdal, Pakistan**.
- The Gurdwara was built on the site believed to be **visited by Sikhism's founder Guru Nanak Dev**, along with his companion Bhai Mardana.

21. Tambo Art

Why in News?

Wayanad farmer creates Ashoka Chakra using Tambo art.

About

- What is it? ➔ Tambo art is an artistic technique that consists of **creating a design with different varieties of rice directly in a rice field**.
- The origin of this art can be **traced to Japan** where people plant paddy of various varieties and hues to create the desired images.
- The image of Ashoka Chakra has been created using **four varieties of paddy** seeds such as **Nazar bath**, **Kala bath**, Kaki **sala** and **Ramlee**.
- They will ripen in shades that **range from brown to golden**, **light brown to black**, **green to black** and **green to white and black**.

Miscellaneous

1. CPHEEO

Why in News?

Central Public Health and Environmental Engineering Organisation (CPHEEO) is organising first of its kind regional workshop on 24x7 Water Supply System at Puri in Odisha.

About CPHEEO

- It has been in existence for more than 60 years since its **raising under the Ministry of Health in 1954**, as per the recommendations of the Environmental Hygiene Committee.
- In **1973-74**, the CPHEEO was **affiliated to the Ministry of Urban Development** (erstwhile Ministry of Works & Housing).
- It is a **technical wing of the Ministry**.
- Functions ➔ It **supports the Ministry in policy formulation** and als**o handholds States by way of technical advice**, **guidelines**, **scrutiny** and **appraisal of schemes** and **propagation of new technologies** in the field of water supply and sanitation including municipal solid waste management.
    - It deals with the matters related to **urban water supply and sanitation** including solid waste management in the Country.
    - It plays a vital role in **processing the schemes posed for Bilateral and Multilateral funding agencies** such as World Bank /ADB and other external funding agencies.

2. 36th National Games

Why in News?

Recently, the 36th National Games was inaugurated by the Prime Minister in Gujarat.

About 36th National Games

- Event ➔ The National Games, being **held after seven years**, will witness India's best athletes compete in 36 disciplines in **six cities of Gujarat**.
- Mascot ➔ The Official mascot for the 36th National Games is "**SAVAJ**", it **portrays a sportsman's most prominent personality traits** of self-confidence, vigour, a strong sense of motivation, an inner desire to succeed, a strong sense of focus, a natural leader, and a goal setter.
- Savaj- taranhar(તારણહાર) in gujarati means "**Savior**" in English. Savaj is the representation of **The Asiatic Lion**, which today survives only in wild India.

☞ National Games of India

- The genesis of the National Games is in the Olympic movement, which gathered momentum in the country in the **1920's**. The need to **identify national talent** that could be picked for the Olympic Games, prompted the initiation of the National Games.
- The **first edition** of the Indian Olympic Games at **Lahore in an undivided Punjab in 1924**.
- The **city of Lucknow** hosted the National Games in its **first post-independence avatar** while the first National Games on the lines of the Olympics were held in **1985 in New Delhi**.
- Jurisdiction ➔ The duration and the regulations of the National Games are entirely within the jurisdiction of the **Indian Olympic Association**.
- Significance ➔ The National Games provide young athletes an **opportunity to get a feel of a multi-discipline Games** and **compete with world-class athletes**.

3. Black Cocaine

Why in News?

Recently, the Narcotics Control Bureau (NCB) arrested a Bolivian woman from Mumbai airport for allegedly carrying black cocaine.

About

- It is a **rare drug**, which is a **mixture of regular cocaine and other chemicals**. This turns it in to turn black in colour.
- It is used by **drug peddlers** coming to India from South American countries.
- Mixture of cocaine hydrochloride with pigments can make **drug sniffing dogs undetectable**.
- It **neutralises the smell** of cocaine so that it can pass through checkpoints easily.
- Pure cocaine base can be recovered from the **mixture by extraction of methylene chloride or acetone**.
- **Mumbai** is one of the landing points from where it is **distributed especially** to other metro cities and Goa.

4. National Informatics Centre

Why in News?

The Government of India has issued Request for Proposal (RfP) for NIC's organizational restructuring.

About

- The National Informatics Centre (NIC) was established in **1976** and is located in **New Delhi**.
- It comes under the **Ministry of Electronics and Information Technology** (MeitY).
- Its main objective is to **provide technology-driven solutions** to the Central and State Governments.
- It has developed **digital governance platforms** including **MyGov**, **PM-Kisan**, **National Power Portal**, and **e-Shram**.
- It **offers free services** to state government entities and **funded by the Central budget**.
- Its main work is to **shift the operating expenditure (OpEx) model** from current capital expenditure (CapEx).
- It also maintains **National Data Centres in different states and 37 small Data Centres** across the country.

5. MeFSAT

Why in News?

An analytical study of medicinal fungi using MeFSAT carried out by researchers from Chennai shows that some chemicals they secrete may find use as novel drugs.

About

- MeFSAT (Medicinal Fungi Secondary Metabolites and Therapeutics) is a **database that compiles information on 184 medicinal fungi,** including mushrooms.
- It is a **manually curated database** that compiles information on secondary metabolites and reported therapeutic uses of medicinal fungi from published research articles and specialized books on the subject.

☞ Medicinal fungi

- Medicinal fungi belongs to two taxonomic divisions namely, **basidiomycota** and **ascomycota**.
- Mushrooms belong to the **basidiomycota division**. An example is **Agaricus bisporus**, the button mushroom, which can be consumed.
- Fungi belonging to the **ascomycota division** are generally not mushrooms.
- Examples of fungi-based medicines ➜
  - **Cordycepin**, a secondary metabolite produced by Cordyceps species of fungus, is known to have **anti-tumor properties**.
  - Not only cordycepin, in general, but several **secondary metabolites** are also known to be **beneficial for humans** in terms of both therapy and health.

6. Swachh Survekshan Ranking 2022

Why in News?

President Droupadi Murmu has recently presented awards as part of Azadi@75 Swachh Survekshan 2022.

About

- Swachh Survekshan is a **Competitive Monitoring Framework** for accelerating Hygiene outcomes in Urban India.
- The mission **started in 2014** by vision of a Swachh Bharat within the **timeframe of five years**.
- A framework is to **bring competition amongst cities and States** to improve their performance in cleanliness.
- It helps India to achieve the **goal of sustainable sanitation and waste management**.
- The '**Prerak DAUUR Samman'** is a new award category, given based on performance of cities.
- This Samman will be given to cities for five levels of achievement in Swachhata ➜ **Divya** (Platinum), **Anupam** (Gold), **Ujjwal** (Silver), **Udit** (Bronze), **Aarohi** (Aspiring).
- The annual cleanliness survey is **conducted by the Ministry of Housing & Urban Affairs** (MoHUA).

Ranking cleanliness

The tables list the top six urban local bodies (ULBs) and the best performing States according to Swachh Survekshan, 2022. Indore retained the tag of India's cleanest city for the sixth consecutive time, while Madhya Pradesh is ranked first among States

Ranking of urban local bodies (with more than 1 lakh population)

City	State	Rank
Indore	Madhya Pradesh	1
Surat	Gujarat	2
Navi Mumbai	Maharashtra	3
Visakhapatnam	Andhra Pradesh	4
Vijayawada	Andhra Pradesh	5
Bhopal	Madhya Pradesh	6

Best performing States (>100 ULBs)

Rank	State
1	Madhya Pradesh
2	Chhattisgarh
3	Maharashtra

(< 100 ULBs)

1	Tripura
2	Jharkhand
3	Uttarakhand

Source: Swachh Survekshan 2022

7. SASTRA Ramanujan Prize

Why in News?

The SASTRA Ramanujan Prize for 2022 will be awarded to Yunqing Tang, Assistant Professor at the University of California, Berkeley, U.S.A.

About

- The award was influenced by **Srinivasa Ramanjuan** in a broad sense. It was instituted by the Shanmugha Arts, Science, Technology & Research Academy (SASTRA) in **2005 with a cash prize of $10,000**.
- It is **presented annually** to individuals aged 32 and below, who made outstanding contributions in the field of mathematics.

Contribution of Yunqing Tang to Mathematics?

- Her works display a remarkable combination of **sophisticated techniques**, in which the **arithmetic and geometry of modular curves and of Shimura varieties** play a central role. Her results and methods are bound to have a major impact on future research in this area.
- Her most recent **joint work with Frank Calegari and Vesselin Dimitrov** on **modular equations** is of great significance and also has ties with Ramanujan's own work

8. Ethylene Glycol and Diethylene Glycol

Why in News?

After the death of 66 children in Gambia, the World Health Organization (WHO) has urged the people to not use four India-manufactured fever, cough and cold syrups.

About

- Diethylene glycol (DEG) and Ethylene glycol both are **sweet-tasting**, **colourless**, **odourless liquid** commonly used in the commercial preparation of antifreeze,
- Ethylene glycol is used in the **production of polyester fibres**, **paints** and **polyethene terephthalate** (**PET**)
- DEG because of its hygroscopic property, is **used in brake fluid**, **cigarettes**, **treatment of paper and some dyes**.
- It is an **excellent solvent** for many relatively insoluble substances.
- Current Issue ➔ These four products **contain unacceptable amounts** of diethylene glycol and ethylene glycol as contaminants in them.
    - These chemicals can **cause toxic effects**, including abdominal pain, vomiting, diarrhoea, inability to pass urine, headache, altered mental state, and acute kidney injury that may lead to death.
    - Currently, the **Central Drugs Standard Control Organization** (**CDSCO**) is **investigating this case**.

☞ **Central Drugs Standard Control Organization**

- The Central Drugs Standard Control Organization (CDSCO) is the **national regulatory body** for pharmaceuticals and medical devices in India.
- It is **divided into zonal offices** which do pre-licensing and post-licensing inspections, post-market surveillance, and recalls when needed.
- The **Drug Controller General of India** (**DCGI**), which is an **organ of the CDSCO**, is responsible for approving and licensing of drugs and medical devices.

9. Nobel Peace Prize for 2022

Why in News?

Recently, the 2022 Nobel Peace Prize was awarded to human rights advocate Ales Bialiatski from Belarus, the Russian human rights organisation Memorial, and the Ukrainian human rights organisation Center for Civil Liberties.

About

- The Peace Prize laureates have, for many years, **promoting the right to criticise power and protect the fundamental rights of citizens**.
- They have made an outstanding effort to **document war crimes**, **human right abuses** and **the abuse of power**.
- Together they demonstrate the **significance of civil society** for peace and democracy.

☞ **Individual contributions**

- **Ales Bialiatski** ➔ He is the **founder of Viasna**, a human rights centre in **Belarus**.
    - President Alexander Lukashenko, who took over the country in 1994, gradually **becameincreasingly autocratic**. His rule has been described as "**Europe's last dictatorship**". In 1996, locals protested against Mr. Lukashenko's rule in large numbers, and the uprising was popularly called **the Minsk Spring**.
    - **Viasna's registration was cancelled** by the Supreme Court of Belarus in 2003. In 2004, it became a member of the International Federation for Human Rights (FIDH).
    - Bialiatski was **arrested many times**, but he has **not yielded an inch in his fight** for human rights and democracy in Belarus.
    - Note: At present also, he is **detained without trial** under very hard conditions.
    - Bialiatski was also awarded the **Right Livelihood Award**, nicknamed the alternative Nobel Prize, in 2020.
- **Memorial** ➔ It is a **Russian human rights organisation** started in **1987** in the erstwhile Soviet Union. The organisation was started as a movement to **expose repression** under the regime. Eventually, it **expanded into civil society groups** that ran a museum, a library, an archive, and support centres to help Soviet-era repression victims and their family members. At present, Memorial is working on the **compilation of information on political repression and human rights violations in Russia**.

- **Centre for Civil Liberties** ➔ It is a **Ukrainian human rights organisation** for Civil Liberties, founded in **Kyiv in 2007**. It aims to **transform the country into a full democracy**. In 2014, when Russia invaded Ukraine and annexed Crimea, the Centre for Civil Liberties participated in **mobile monitoring groups in Crimea as well as Donbas**. The organisation is presently focused on identifying and **documenting Russian war crimes** following the invasion of Ukraine in February 2022.

10. International Year of Glass 2022

Why in News?

Recently, The United Nations declared 2022 as the International Year of Glass to promote best practices and sustainability in the industry.

About

- Glass is an **inorganic solid material** that is usually transparent or translucent as well as hard and brittle.
- Glass is a **poor conductor of heat and electricity** and has no sharp melting point.
- Glass **decompose very slowly** but can be recycled.
- Commercial glass is **usually made of sand**, **limestone**, and **sodium carbonate** that is raised in temperature until it is molten and then cooled quickly.
- Types of glasses ➔
    - **Everyday glass** like sheet glass and bottle glass.
    - **Borosilicate glass** - It is used for cookware and laboratory glassware.
    - **Specialized glasses** include optical, photosensitive, metallic, and fibre-optic.

11. India's First Solar-Powered Village – Modhera

Why in News?

Recently, Prime Minister declared Modhera, in Gujarat as India's first round-the-clock solar-powered village involving a ground-mounted solar power plant and more than 1,300 rooftop solar systems.

About

- Modhera village is in **Mehsana district in Gujarat**.
- Modhera will be India's first village to become a **net renewable energy generator**. It will be the first modern village to have a **solar-based ultra-modern electric vehicle charging station**.
- It is India's first **grid-connected megawatt-hours (MWh) scale battery energy storage system**. People in Modhera would be **saving 60% to 100 %** on electricity bills.
- Modhera was well **known for the Sun temple**, now it will also be known as a **solar-powered village**. The heritage lighting and 3-D projection at the Sun Temple would operate on solar energy. The 3-D projection will inform visitors about the **history of Modhera**.

👉 Modhera Sun Temple

- The Sun temple in Modhera is situated on the **bank of the Pushpavati River**.
- The temple was **built after 1026-27 CE** during the **reign of Bhima I** of the Solanki or Chalukya dynasty.
- The temple was attacked and invaded twice, **first by Mehmood Ghazni** during his raid of Gujarat and **then by Allauddin Khilji**.
- The magnificent temple is built in the **Solanki type Maru-Gurjara Style of architecture**.
- Maru-Gurjara architecture – It is a **style of north** Indian temple architecture that originated in **Gujarat and Rajasthan** from the 11th to 13th centuries, **under the Chaulukya dynasty**.
- The temple was completely built of **sandstone** and it consists of three main components –
    - The main temple consists of a **Garbagriha** and **a mandapa** called as **Gudamandapa**.

- o   A **Sabha Mandapa**.
- o   A **kunda** or **a stepped water tank** called **Surya kund**, which encompasses a number of miniature shrines on its smaller steps.

12. Ukrainian Borsch

Why in News?

UNESCO inscribed the Culture of Ukrainian borscht cooking on the List of Intangible Cultural Heritage in Need of Urgent Safeguarding in July 2022.

About

- Borscht is a **sour soup common in Eastern Europe** and the word is associated with the soup's variant of Ukrainian origin.
- Ukrainian borscht is cooked with broth combined with **beetroot**, **sugar beet or fermented beet juice**.
- Ukrainian borscht **unites people of all ages**, **genders** and **backgrounds** at the table. It is also used in **ritual practices** such as in the **region of Podillia**, where the third day of the wedding has maintained its ritual name **do nevistky** – **na borshch** meaning '**visit daughter-in-law to eat borscht**'.
- Threats faced by this traditional soup of Ukraine: This soup has been threatened by various factors **since the beginning of the armed conflict** including the **displacement of bearers** from their communities of origin and from the cultural contexts necessary for the cooking and consumption of borscht in Ukraine.

13. Omicron BF.7

Why in News?

The Gujarat Biotechnology Research Centre has recently detected the first case of the Omicron sub-variant BF.7 in India.

About

- Omicron BF. 7 is the **latest sub-variant** of the Omicron variant, first detected in **Northwest China's Inner Mongolia Autonomous Region**.
- It is also known as the **'Omicron spawn'**.
- This new variant is **fast spreading** to several other countries including the **United States**, **UK**, **Australia** and **Belgium**.
- Being a sub-variant of Omicron BA.5, BF.7 reportedly has **enhanced immunity evasion** in comparison to its parental strain.
- This means that people who have been **infected before** or **have taken the COVID-19 vaccines can get infected** with BF.7.
- Symptoms ➔
  - o   The symptoms associated with the BF.7 sub-variant is **similar to other sub-variants of Omicron**.
  - o   This **includes** headache, persistent cough, changes in sense of smell, chest pain, hearing loss and shaking, abdominal pain, diarrhoea, runny nose, sore throat and fatigue.

14. Aluminium Freight Train Rake

Why in News?

Union Minister for Railways inaugurated India's First Aluminum Freight Rake named - 61 BOBRNALHSM1 at Bhubaneswar Railway Station.

About

- A rake in a train is a line of **coupled passenger coaches**, **freight wagons**, or **railcars** (excluding the locomotive) that typically move together. One rake can have around **40 to 58 wagons attached** to it.
- Previously, made of steel, Aluminium rakes have the following advantages ➔
  - o   **Lighter**: More speed, lower energy consumption and higher freight-carrying capacity

- o **Lower CO2 footprint**
- o **Recyclable 100%**
- Made in collaboration with **Besco Limited Wagon Division** and **aluminium major Hindalco** (a subsidary of Aditya Birla Group).

15. Nihonshu

Why in News?

The Embassy of Japan, New Delhi, has filed an application seeking a Geographical Indication (GI) tag for nihonshu/Japanese sake, an alcoholic beverage.

About Nihonshu

- Nihonshu is an **alcoholic beverage**. It is regarded as a special and valuable beverage made from **fermenting rice**.
- People traditionally **drink nihonshu on special occasions**, such as festivals, weddings or funerals, but it is also consumed on a daily basis. Thus, it is an **integral part of the lifestyle and culture in Japan**.
- For making nihonshu three main raw materials – **rice**, **koji-kin** (a type of fungal spore) and water – are required.
- The production of nihonshu follows an **alcoholic fermentation method** called **parallel multiple fermentation** and involves the **raw material treatment**, koji making, starter culture-making, mash making, pressing, heat sterilization and bottling.

☞ **Geographical Indication (GI) Tag**

- Geographical Indication (GI) is an indication used to identify goods having **special characteristics originating from a definite geographical territory**.
- The **Geographical Indications of Goods (Registration and Protection) Act, 1999** seeks to provide for the registration and better protection of geographical indications relating to goods in India.
- It is governed and directed by the WTO Agreement on **Trade-Related Aspects of Intellectual Property Rights** (**TRIPS**).
  - o It was decided and also stated under **Articles 1 (2) and 10 of the Paris Convention** that the protection of industrial Property and Geographical Indication are elements of Intellectual Property.
- It is primarily an **agricultural**, **natural** or a **manufactured product** (handicrafts and industrial goods).
- Validity: This tag is valid for a **period of 10 years** following which it can be **renewed**.

16. National Metallurgist Award 2022

Why in News?

The Ministry of Steel has given approval for the National Metallurgist Award 2022.

About

- National Metallurgists Day Awards was instituted in **1962 by the then Ministry of Steel & Mines**.
- Objective ➔ To **recognise & honour the outstanding contributions of Metallurgists** in the metallurgical field covering operation, research, design, education, waste management and energy conservation.
- The awards are given on an **annual basis**. The first award was given in the **year 1963** and **subsequently every year thereafter**.
- Mode of Nominations ➔ Nominations for the award shall be **invited online on the Ministry of Steel's Portal** or **the centralized portal** being developed by the Ministry of Home Affairs(MHA). Nominations will be through companies/ organizations or from the public through self-nomination.
- Date of Award ➔ **3rd February every year**. (It was on 3rd Feb 1959 when the then President Dr Rajendra Parasad commissioned the first Blast Furnace of the country after independence, at Rourkela).

17. World health Summit 2022

Why in News?

The annual international health conference World Health Summit 2022 is being held in Berlin, Germany.

About

- For the **first time**, **the World Health Organization co-organised** the summit this year.
- WHS 2022 **aimed** to strengthen exchange, stimulate innovative solutions to health challenges, position global health as a key political issue and promote a global health conversation in the spirit of the UN Sustainable Development Goals.
- At the World Health Summit 2022, several global leaders committed to **donate $2.54 billion for eradicating polio**.
  - Bill & Melinda Gates Foundation pledged to **Global Polio Eradication Initiative** (**GPEI**).
  - **Rotary International** and countries the **United States**, **Germany** and **France** have also pledged to eradicate polio.

☞ **Polio disease**

- **Poliomyelitis**, commonly called polio, is a **highly infectious viral disease** that can leave patients **disabled**, and in some cases, even prove fatal.
- The virus **enters the nervous system** and **can cause total paralysis** in just a few hours.
- Symptoms ➔ Initial symptoms of the infection include **fever**, **fatigue**, **headache**, **vomiting**, **stiffness of the neck and pain** in the limbs.
- Treatment ➔ There is **no known cure** for polio. It can **only be prevented** by way of vaccination.
- Types of Polio virus ➔ Wild poliovirus (WPV) has three known strains – **types 1, 2, and 3** – each with a slight difference in structure.
- Immunity to one type does not guarantee immunity to others.
  - **Type 1 WPV** - remains in circulation and endemic to Pakistan and Afghanistan.
  - **Type 2 WPV** - declared eradicated in September 2015.
  - **Type 3 WPV** - declared eradicated in October 2019.
- Spread of the disease ➔ The polio virus is most commonly spread **through the faecal-oral route**.
  - It can also spread through **contaminated water or food**.
  - The **virus multiplies** in the host's intestines.
- Susceptible age group ➔ Most polio cases are recorded in children **under five years of age**, but all unvaccinated people can contract the disease.
- Vaccines ➔
  - Oral Polio Vaccine (OPV): It is **given orally** as a birth dose for institutional deliveries, then primary **three doses at 6, 10 and 14 weeks** and one booster dose at 16-24 months of age.
  - Injectable Polio Vaccine (IPV): It is introduced as an **additional dose** along with the 3rd dose of DPT (Diphtheria, Pertussis and Tetanus) under the Universal Immunisation Programme (UIP).

18. Viral Spillover Risks

Why in News?

According to new research published in Proceedings of the Royal Society B, the biological research journal of the UK's The Royal Society, there is an increased risk of "viral spillover" in some regions that could cause new pandemics over the next few years.

About

- Spillover event is the term used to describe **when a virus has overcome the many naturally occurring barriers** necessary to "spill over" from one species to another.
- The **COVID-19 pandemic**, **SARS** and **MERS outbreaks and H1N1** are all examples spurred by spillover events, generally from animals to humans.

Study Highlights

- As **temperature increases**, the **melting of glaciers increases** as well.
- Due to this, there is a greater possibility for previously **ice-trapped viruses and bacteria** to came in **contact with new environments** and to find new hosts.
- It **increases the risk** of viral spillover events in high Arctic lakes.
- The **High Arctic zone** (regions of Canada within the Arctic Circle such as the Northern islands) could become fertile ground for emerging pandemics.

19. Commodity Fetishism

Why in News?

In modern society, Commodity Fetishism is accentuated by the use of brand names over quality or use-value of the product.

About

- Introduced in the **first chapter of Karl Marx**'s most ambitious project, **Das Kapital**, or Capital: A Critique of Political Economy,
- He applied his analysis of commodities in **capitalism to society as a whole** through the concept of commodity fetishism.
- The term describes **how the social relationships of production and exchange among people take the form of relationships between things** (money and commodities) under capitalism.
- The term fetishism in anthropology refers to the **belief among indigenous cultures of inanimate objects** (such as totems) possessing godly or mystical powers.
- Marx **separates the religious connotation of the term** and uses it to understand how commodities possess mystical powers once in the market as it severs ties with the production process.

20. Dr Dilip Mahalanabis

Why in News?

Dr Dilip Mahalanabis, who pioneered Oral Rehydration Solution (ORS) treatment as a simple, effective remedy for dehydration has passed away.

About

- Born on **12th November, 1934 in West Bengal**, Dr Mahalanabis studied in Kolkata and London, and joined the Johns Hopkins University International Centre for Medical Research and Training in Kolkata in the 1960s, where he **carried out research in oral rehydration therapy**.
- Dr Mahalanabis was **working in overflowing refugee camps** during the 1971 Bangladesh Liberation war when he came up with ORS.
- From 1975 to 1979, Dr Mahalanabis **worked in cholera control for WHO in Afghanistan**, **Egypt** and **Yemen**.
- In the **mid-1980s** and **early 1990s**, he was a **medical officer** in the Diarrheal Disease Control Programme of the WHO.
- In **1994**, he was elected a **foreign member of the Royal Swedish Academy of Sciences**.
- In 2002, Dr. Mahalanabis was awarded the **first Pollin Prize in Pediatric Research** for their contributions to the discovery and implementation of oral rehydration therapy.
- In 2006, he was **awarded the Prince Mahidol Prize**, for his role in the development and application of oral rehydration therapy.

☞ **Oral Rehydration Solution (ORS)**

- ORS, a **combination of water**, **glucose**, and **salts**, is a simple and cost-effective method of preventing dehydration.

- It is an **alternative to intravenous rehydration therapy** for preventing and treating dehydration from diarrhea when intravenous therapy is not available or feasible.
- Oral rehydration therapy is **calculated by the World Health Organization (WHO)** to have saved the lives of over 60 million persons.

21. Doctrine of Res Judicata

Why in News?

Recently, the Supreme Court held Res Judicata is attracted not only in separate subsequent proceedings but also at subsequent stages of the same proceedings.

About

- Res Judicata is a phrase which has evolved from a Latin maxim, which stands for '**the thing has been judged**', meaning thereby that the issue before the court has **already been decided by another court**, **between the same parties**.
- The principle of res judicata applies when a **litigant attempts to file a subsequent lawsuit on the same matter**, after having received a judgment in a previous case involving the same parties.
- Res Judicata as a concept is applicable **both in case of Civil as well as Criminal legal system**.
- In order to set up a res judicata, you must establish that:
    - The decision on which your res judicata is based, **whether domestic or foreign, was judicial in the relevant sense**
    - It was in **fact pronounced**
    - The tribunal had **jurisdiction** over the parties and the subject matter.
    - The decision was: **Final**, **On the merits**.

22. India's Trade with China

Why in News?

India's trade equation with China has been improving in recent years with outbound shipments rising faster than imports.

About

- China is **one of India's large trading partners**. The trade between the two countries has **grown 59%** from about $72 billion in 2014-15 to hit $115.4 billion in 2021-22.
- Exports ➔ From $11.9 billion in 2014-15, India's exports to China had **risen 78.1% to $21.25 billion in 2021-22**.
- Imports ➔ The imports from China stood at **$94.16 billion in 2021-22** which is a **55.8% rise** over the $60.4 billion recorded in 2014-15.
- Import Products from India ➔ **Intermediate goods** account for **more than a third** of India's imports from China while capital goods constitute another 19.3%.
    - The major items of import from China are **electronic components**, **computer hardware and peripherals**, **telecom instruments**, **organic chemicals**, **industrial machinery for dairy**, **residual chemicals and allied products**, **electronic instruments**, **bulk drugs** and **intermediates**.
- Reason for India's dependence on Chinese goods? ➔ It can be attributed largely to 1) **gap between the domestic production and demand in India** and 2) **China being a manufacturing hub** and having price competitiveness due to economies of scale and subsidies provided by its government to Chinese industry.

23. World Energy Outlook 2022

Why in News?

The International Energy Agency (IEA) released its World Energy Outlook (WEO) 2022 report, which stated that global emissions will peak in 2025.

About

- Released by ➔ World Energy Outlook is the **flagship publication of the International Energy Agency** has appeared every year since 1998.
- WEO 2022 report believes global emissions will **peak in 2025 as surging energy prices** due the Russian invasion of Ukraine propel investment in renewables.

👉 **Key Findings**

- **Russia's invasion of Ukraine** has led to a period of **extraordinary turbulence** in energy markets, especially for natural gas.
- **High energy prices** are causing a **huge transfer of wealth** from consumers to producers, especially in natural gas.
- It forecasts **global clean energy investment to rise** by more than 50% from today's levels by 2030.
- Global CO2 emissions are then set to **fall back slowly** from a high point of **37 billion tonnes per year to 32 billion tonnes by 2050**.

👉 **International Energy Agency**

- International Energy Agency (IEA) is a **Paris-based autonomous intergovernmental organization** established in the framework of the Organisation for Economic Co-operation and Development (**OECD**).
- Only OECD member states can become members of the IEA and **India is an associate member** of IEA.
- The IEA acts as a **policy adviser to its member states**, but also works with non-member countries, especially China, India, and Russia.

24. News Broadcasting & Digital Standards Authority (NBDSA)

Why in News?

The News Broadcasting & Digital Standards Authority (NBDSA) has recently fined the Hindi TV channel News18 India Rs 50,000 for turning a news debate on hijab into a "communal issue" and not adhering to guidelines.

About

- What is it? ➔ It is an **independent body** set up by the News Broadcasters & Digital Association (NBDA).
- It serves as a **representative of private television news**, **current affairs** and **digital broadcasters**.
- Funded by ➔ **Funded entirely by its members**, the NBDA has 26 news and current affairs broadcasters (comprising 119 news and current affairs channels) as its members.
- **Various senior members** of Indian media organisations serve on its Board of Directors.
- It carries out activities "**to promote**, **protect and secure the interests** including the right of freedom of speech and expression of the news broadcasters, digital news media and other related entities".
- Composition ➔
    - The body includes a **Chairperson** who is to be an eminent jurist, and other members such as news editors, and those experienced in the field of law, education, literature, public administration, etc. nominated by a majority of the Board.
    - Former Supreme Court judge and jurist **AK Sikri** is currently serving as the Chairperson.
- Function ➔
    - The Authority may **initiate proceedings on its own and issue notice** or take action in respect to any matter which falls within its regulations.
    - This can also be **through complaints referred to the Authority** by the Ministry of Information & Broadcasting or any other governmental body, or by anyone else via its website.

25. Glyphosate

Why in News?

Government has restricted the use of the Herbicide glyphosate to authorized pest control operators, attracting criticism from industry bodies.

About

- What is it? ➔ It is a **non-selective herbicide** (kills both ally types of plants). It is also used to **regulate plant growth and ripen specific crops**.
- It is **banned in 28 countries**, including Australia, Canada, Brazil, Germany, Italy, Netherlands and Sri Lanka, as it may be carcinogenic (as per a WHO study) and remains as a residue in the environment for up to 6 months.
- Usage of glyphosate in India ➔ It is widely used in **plantation agriculture**. It is also used to **control weeds** in afforestation activities and in areas along irrigation channels, Railway tracks etc. It may also be **combined with BT cotton, leading to high usage in Deccan belts**.

26. Tuberculosis (TB)

Why in News?

The World Health Organisation (WHO) released the Global TB Report 2022 highlighting the impact of the COVID-19 pandemic on TB all over the world.

About Key Findings

- TB Incidence ➔ An estimated **10.6 million** people fell ill with tuberculosis (TB) in 2021 (4.5% increase from 2020).
- TB Death ➔ **1.6 million People died** from TB (including HIV positive people).
- Drug-Resistant TB ➔ The burden of drug-resistant TB (DR-TB) also **increased by 3%** between 2020 and 2021.
- India and TB ➔
  - With **28% cases**, India was among the eight countries accounting for more than two-third (68.3%) of the total TB patients' count.
  - India accounted for **36% of the global TB related deaths** among HIV negative people.
  - India's Stand on the Report: India has **performed far better** on major metrics as compared to other countries over time.

☞ Tuberculosis

- TB is caused by a bacterium called **Mycobacterium tuberculosis**, belonging to the Mycobacteriaceae family consisting of about 200 members.
- In humans, TB most commonly **affects the lungs** (pulmonary TB), but it can **also affect other organs** (extra-pulmonary TB). It can spread from person to person through the air.
- Most people who develop the disease are adults — in 2021, **men accounted for 56.5%** of the TB burden, **adult women - 32.5% and children - 11%**.
- TB is **preventable and** curable - around 85% of people who develop the disease can be successfully treated with a 4/6-month drug regimen.

☞ India's Initiatives to Eliminate TB:

- Under the **Pradhan Mantri TB Mukt Bharat Abhiyan**, India aims to eliminate TB from the country by 2025 (5 years earlier than the global target of 2030).
- **Ni-kshay Mitra** is a component of this initiative that ensures additional diagnostic, nutritional, and vocational support to those on TB treatment.
- India conducts its own **National TB Prevalence Survey** to assess the true TB burden in the country which is the world's largest such survey ever conducted.
  - The Union Ministry for Health and Family Welfare also launched the '**TB Harega Desh Jeetega Campaign'**, along with the Survey.

- Currently, two vaccines **VPM (Vakzine Projekt Management) 1002** and **MIP (Mycobacterium Indicus Pranii)** have been developed and identified for TB which are under clinical trials.

27. UNITED IN SCIENCE REPORT

Why in News?

Report is a multi-organization (WMO, UNEP etc.) compilation of most recent science related to climate change, impacts and responses.

About

- **Global fossil carbon dioxide (CO2)** emissions in 2021 returned to **pre-pandemic levels of 2019**.
- **2015** to **2021** were the **warmest on record**. Climate change made **extreme heat and floods** worse in 2022.
- By **2050**, at least 1.6 billion people around the world will be regularly exposed to **3-month average temperatures** reaching at least **35°C**.

28. DIGITAL MONITORING, REPORTING AND VERIFICATION (D-MRV) SYSTEMS

Why in News?

With growing interest of countries to participate in carbon markets to meet their climate change goals, innovative Digital Monitoring, Reporting and Verification (D-MRV) are evolving to track reductions in greenhouse gas (GHG) emissions.

About

- The increased interest is due to GHG emissions targets for developed as well as developing countries under the **Paris Agreement unlike the Kyoto Protocol with targets for developed countries only**.
- Carbon markets are trading systems in which **carbon credits are sold and bought**.
- One tradable carbon credit equals **one tonne of carbon dioxide** or the equivalent amount of a **different greenhouse gas reduced**, sequestered or avoided.
- D-MRV systems represent the **first step in end-to-end digitalization** of post-2020 carbon markets.
- **Digital-MRV (D-MRV) Systems** are based on AI, machine learning, **blockchain**, smart sensors, drones etc.

Key barriers to D-MRV systems:

- The cost of emerging technologies can be prohibitive
- D-MRV systems could capture **sensitive data**, **necessitating additional privacy controls** to be put in place
- Developing countries often **lack capacity** to use emerging digital technologies.

29. Hybrid militant

Why in News?

A hybrid militant was arrested in Jammu & Kashmir.

About

- 'Hybrid' or '**part-time'** militants are people **who do not figure on police records** as ultras, but are **radicalized** enough to carry out a terror strike and then slip back into the routine life.
- A hybrid militant poses as civilian to dissemble their violent activities thus making it **more difficult for security forces to trace** them or determine their activities.

30. WAR CRIMES

Why in News?

According to the Rome Statute of the International Criminal Court (ICC), war crimes refers to serious violations of humanitarian laws during a domestic conflict or a war between two states.

About

- **Genocide and crimes against humanity** can happen in **peacetime** or during the **unilateral aggression** of a military towards a group of unarmed people.
- This definition is derived from the **1949 Geneva Conventions** (regulates the conduct of armed conflict and seeks to limit its effects).
- It is based on the idea that **individuals can be held liable** for the actions of a state or its military.

31. WATER TRADING

Why in News?

NITI Aayog is working on draft policy regarding trading in water on commodity exchanges like gold, silver and crude oil.

About

- Water trading refers to **buying**, **selling or leasing** water access right enabling water to be transferred from one user to another.
- Market price of water reflects its demand and supply.
- It is already **practiced in Australia, Chile, USA** among others.
- In **2020**, **first tradable water price futures index** was launched on **Chicago Stock Exchange**.

Better price **discovery** leading to efficient use of resources and encourage water saving.

Increased flexibility to manage water availability and water use.

Attract investments in water economy through increased business opportunities

Benefits of Water Trading

Reduce government expenses on drought relief measures.

Insure farmers against drought.
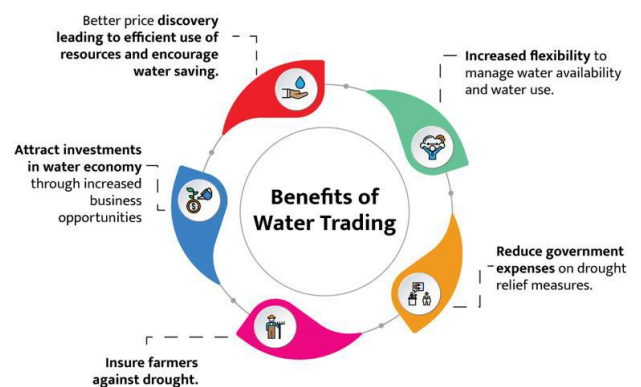
Quick revision (True/False)

1	**Global Innovation Index ->** Released by World Economic Forum.	
2	**Ranipur Wildlife Sanctuary ->** Haryana.	
3	**Zhurong rover ->** China's first Mars rover carried by China's Tianwen-1 spacecraft in 2021.	
4	**Operation Garuda ->** For combating the smuggling of illicit drugs and psychotropic substances.	
5	**Enceladus ->** One of the moons of Mars.	
6	**36th National Games ->** held in Haryana.	
7	**National Informatics Centre ->** comes under the Ministry of Electronics and Information Technology.	
8	**Narmada River ->** largest east flowing river of the peninsular region.	
9	**Chief of Defence Staff ->** Heads the newly created Department of Military Affairs.	
10	**Young, Upcoming and Versatile Authors (YUVA) 2.0 ->** Launched by Ministry of Culture.	
11	**Community reserves ->** formed by the local village council and the forest department signing a MoU.	
12	**Universal Service Obligation Fund ->** Levy amount is credited to the Public account of India.	
13	**Council of Scientific & Industrial Research (CSIR) ->** President: Prime Minister of India (Ex-officio).	
14	**United Nations Conference on Trade and Development ->** established in 1945.	
15	**Pradhan Mantri Awas Yojana (Gramin) ->** Implemented in rural areas throughout India except Delhi and Chandigarh.	
16	**Alzheimer Disease ->** is a zoonotic disease.	
17	**Food and Agriculture Organization (FAO) ->** is not a specialized agency of the United Nations.	

18	**The Chola Dynasty ->** Founded in the 9th century by Amoghavarsha I.	
19	**Sugarcane ->** Grows well in hot and humid climate with a temperature of 21°C to 27°C.	
20	**5G or fifth generation technology ->** Promises very high latency.	
21	**Quality Council of India (QCI) ->** Is a Statutory body.	
22	**UN Peacekeeping ->** United Nations Security Council authorize peacekeeping operations.	
23	**Vyom Mitra ->** It is the 'female' AI-enabled robot astronaut.	
24	**UN Human Rights Council ->** It meets at the UN Office at Washington, D.C.	
25	**Lok Adalats ->** award (decision) made by the Lok Adalats is non-binding on all parties.	
26	**Competition Commission of India ->** Is a Statutory body.	
27	**Koalas ->** IUCN: vulnerable.	
28	**Credit Guarantee Scheme for Startups ->** National Credit Guarantee Trustee Company Limited (NCGTC) will be operating the Scheme.	
29	**Kerch bridge ->** only direct link between the transport network of U.K. and France.	
30	**Phawngpui National Park ->** Odisha.	
31	**Territorial Army ->** Eligibility - Any citizen between the age of 18-23 can be a part of the service.	
32	**India's First Solar-Powered Village ->** Kunaria, Gujarat.	
33	**Committee of experts on sustainable finance ->** Headed by CK Mishra.	
34	**North Eastern Council ->** a constitutional body.	
35	**Tele MANAS ->** Nodal Centre - National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru.	
36	**Kurdish Community ->** Myanmar.	
37	**India's foreign-exchange reserves ->** Foreign-currency assets, loans from the World Bank and SDRs.	

38	**Global Hunger Index ->** Released by Food and Agriculture Organization (FAO).	
39	**Next-Gen Launch Vehicle (NGLV) ->** NGLV will have semi-cryogenic propulsion.	
40	**Conference on Interaction and Confidence Building Measures in Asia (CICA) ->** India is not a member of CICA.	
41	**INS Tarkash ->** is a state-of-the-art stealth frigate of the Indian Navy.	
42	**Grameen Udyami Project ->** funded by the Ministry of Skill Development and Entrepreneurship.	
43	**Indian Bisons ->** IUCN Red List – Endangered.	
44	**Secure Himalaya project ->** funded by the Global Environment Facility.	
45	**Galapagos Islands ->** located in the Pacific Ocean.	
46	**Barium ->** give fireworks a Red colour.	
47	**Multidimensional Poverty Index ->** Released by United Nations Commission on Human Rights.	
48	**Chief Justice of India ->** Not comes under the purview of the Right to Information (RTI) Act, 2005.	
49	**Green Crackers ->** developed by the Council of Scientific and Industrial Research.	
50	**Aluminium Freight Train Rake ->** Lower CO2 footprint, Recyclable 100%.	
51	**National Metallurgists Day Awards ->** Instituted in 1962 by the then Ministry of Culture.	
52	**Matihani-Sambho bridge ->** built on the River Ganga in Begusarai (Bihar).	
53	**WISER programme ->** Launched by Department of Science and Technology.	
54	**Northern Giraffe ->** IUCN Status (Vulnerable).	
55	**Geographical Indication (GI) Tag ->** tag is valid for a Lifetime.	
56	**National Maritime Heritage Complex ->** at Rakhigarhi, Haryana.	
57	**Swadesh Darshan Scheme ->** is a Centrally Sponsored Schemes under the Ministry of Tourism and Culture.	

58	**World Green City Award** -> Won by Chandigarh.	
59	**Rustom-2** -> an indigenous Medium Altitude Long Endurance (MALE) UAV.	
60	**Anthracite coal** -> found only in Assam.	
61	**Polio disease** -> virus enters the nervous system and can cause total paralysis in just a few hours.	
62	**HTT-40 Indigenous Trainer Aircraft** -> developed by Hindustan Aeronautics Limited (HAL).	
66	**Tribal Youth Exchange Programme** -> Organized by Ministry of Tribal Affairs.	
67	**Honesty Shops** -> launched in 2008 and part of the Student Police Cadet (SPC) project.	
68	**Competition Commission of India (CCI)** -> Non-Statutory body.	
69	**LiFE (Lifestyle for Environment)** -> introduced by the Prime Minister —at COP 21 was held in Paris, France.	
70	**Great Indian Bustard** -> Critically Endangered on the IUCN Red List.	
71	**Pradhan Mantri Awas Yojana - Urban (PMAY-U)** -> To achieve the goal of Housing for All in Urban areas by 2030.	
72	**Sampurnanand Telescope (ST)** -> located near Hanle, Ladakh.	
73	**G20 Religion Forum** -> organised and hosted by Nahdlatul Ulama (NU).	
74	**Agni Missiles** -> Surface to air missiles.	
75	**Central Bureau of Investigation** -> a statutory body.	
76	**Groningen Gas Field** -> northeastern part of the Netherlands.	
77	**Pokkali Rice** -> cultivated in Assam.	
78	**Cyclone Sitrang** -> form in the Arabian Sea.	
79	**Oral Rehydration Solution (ORS)** -> a simple and cost-effective method of preventing dehydration.	
80	**Solar Eclipse** -> when Earth positions itself between the sun and the moon, casting a shadow across the lunar surface.	

81	**Bhoota Kola ->** is a type of hand printed or hand block printed cotton textile.	
82	**Indian Sandalwood ->** IUCN Red List Status: Vulnerable.	
83	**Mahanadi River ->** rises near Amarkantak range of mountains in Madhya Pradesh.	
84	**Launch Vehicle Mark III (LVM3) -M2 ->** can carry up to 8 tonnes into low earth orbit.	
85	**HAWK Air Defense Equipment ->** is a medium-range air to air missile.	
86	**Ethiopia ->** has the longest coastline on Africa's mainland.	
87	**Doctrine of Lapse ->** annexed Kittur in 1824, Mandvi in 1839, Kolaba and Jalaun in 1840 and Surat in 1842.	
88	**Central Zoo Authority of India ->** constituted under Environment Protection Act, 1986.	
89	**Like Minded Developing Countries (LMDC) Group ->** India is part of the LMDC grouping.	
90	**Blue Flag Certification ->** Awarded by the Denmark-based non-profit Foundation for Environmental Education.	
91	**Genetic Engineering Appraisal Committee (GEAC) ->** functions under the Ministry of Science and Technology.	
92	**Khangkhui Cave ->** Madhya Pradesh.	
93	**The Association of Southeast Asian Nations (ASEAN) ->** established in August 1967 in Bangkok, Thailand.	
94	**Overhauser(OVH) Magnetometers ->** Used for performing geomagnetic field measurements.	
95	**Alps Mountains ->** world's longest continental mountain range.	
96	**International Energy Agency ->** Only OECD member states can become members of the IEA.	
97	**United Nations Environment Programme ->** Headquarters: Gland, Switzerland.	
98	**Emission Gap Report 2022 ->** Released by Global Footprint Network.	
99	**Gurdwara Panja Sahib ->** located in Hasan Abdal, Pakistan.	

100	**Exercise Garuda ->** a bilateral maritime exercise between India and France.	