

YUDH ABHYAS SERIES FOR UPSC PRELIMS 2023

**MOST EXPECTED PRELIMS TOPICS
TOP 100 PRELIMS TOPICS
BY
VISHNU VARDHAN Sir**

Topic - 1

MERGER OF CCI & JUTE CORPORATION OF INDIA

- Centre has proposed to merge Jute Corporation of India Ltd (JCI) with Cotton Corporation of India (CCI)
- This merger will create a bigger public sector entity and will help in carrying out procurement of all natural textile fibre.

➤ **JCI Set up in 1971 under textile ministry**

➤ **Has been the price support agency for procurement of raw jute from growers at the MSP declared by the government**

➤ **The presence of JCI has provided stability to the raw jute prices, protecting interests of the about four million families, engaged in jute farming.**

➤ **CCI Set up in 1970 under textile ministry**

➤ **Has been undertaking price support operations whenever the prices of cotton falls below MSP**

➤ **There are around 58 lakh cotton cultivators and India accounts for about a fourth of the global output.**

➤ **Both JCI and CCI are also involved in the commercial purchase operations.**

Topic - 2

BharOS

It is an indigenous mobile operating system (OS), like Android or iOS. It is focused on privacy and security.



Topic - 3

Knowledge Involvement in Research Advancement through Nurturing-KIRAN Scheme

- DST restructured all women specific programmes under one umbrella called KIRAN.
- It encompasses women-exclusive schemes and encourages them to foster their career by undertaking research in science and technology and also focusing on s&t solutions of issues & challenges at the grassroots level for social benefits.



Topic - 4

KINNAL CRAFT

- It is a traditional craft which has been done on wood
- It is the local craft of Kinhal or Kinnal town in the Koppal District of Karnataka.

GI STATUS-

- It was awarded the Geographical Indication tag in 2012.

ARTISANS-

- The artisans of this craft are identified as Chitragars.
- The wood used by them is a local wood known as Polki Maran

SIGNIFICANCE

- The intricate carvings in the Hampi Chariot are believed to be a Kinnal Craft.
- The toys made by Kinhal craft have a signature gold and silver colour which is done by using a special technique named as Lajwara Technique
- The Basic Theme of the craft is primarily Hindu Mythology.

Topic - 5

IN-SPACE

➤ To facilitate private sector participation, the government has created the Indian National Space Promotion and

➤ Authorization Centre (IN-SPACE), in June 2020, as a single-window, independent, nodal agency which functions as an autonomous agency in Department of Space (DOS)

➤ Established as a single window agency for all space sector activities of private entities, IN-SPACE plays an important role in boosting the private space sector economy in India

Topic - 6

Order of initial movements of Gandhiji

Trick – Cake for Rowlatt

C- Champaran Satyagrah 1917- First Civil disobedience

A- Ahmedabad Mill Strike 1918- First Hunger Strike

K– Kheda Satyagrah 1918- First Non Cooperation Movement

Topic - 7

Mission Indradhanush

Target disease under Mission Indradhanush
Trick–Ministry of Health Provides Pills to
Destroy Tuberculosis

M- Measles

H- Hepatitis

P- Pertussis

P- Polio

D- Diphtheria

T- Tuberculosis

Intensified Mission Indradhanush (IMI) 3.0

➤ This Scheme has been rolled out to cover children and pregnant women who missed routine immunisation during the Covid-19 pandemic.

➤ **Provides vaccination against 12 Vaccine-Preventable Diseases (VPD)** i.e. diphtheria, Whooping cough, tetanus, polio, tuberculosis, hepatitis B, meningitis and pneumonia, Haemophilus influenzae type B infections, Japanese encephalitis (JE), rotavirus vaccine, pneumococcal conjugate vaccine (PCV) and measles-rubella (MR)

➤ However, Vaccination against Japanese Encephalitis and Haemophilus influenzae type B is being provided in selected districts of the country.

Topic - 8

India's Updated Nationally Determined Contribution to UNFCCC

- L, I, F, E, i.e. Lifestyle For Environment. The vision of LIFE is to live a lifestyle that is in tune with our planet and does not harm it.
- The Net Zero target by 2030 by Indian Railways
- Reduce Emissions Intensity of its GDP by 45 percent by 2030, from 2005 level and achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030
- Reaching net-zero by 2070

Topic - 9

Coal Gasification Process

- Coal gasification is a process in which coal is partially oxidised with air, oxygen, steam or carbon dioxide to form a fuel gas.
- Coal gasification is the method of transforming coal and water into syngas, which is a mixture of carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂), methane (CH₄), as well as water vapour (H₂O).

Topic - 10

Doppler Radar

- Union Minister of Science & Technology- Entire Country will be covered by Doppler Weather Radar Network by 2025.
- Aim – to predict extreme weather events more accurately
- Doppler radar is a specialized tracking system that uses the Doppler effect to track weather conditions and calculate information about the location and velocity of a storm or other forms of extreme weather events.

Topic - 11

CHILIKA LAKE

- 1 Asia's Largest and World's 2nd largest Lagoon.
- 2 Located in Odisha.
- 3 First Indian wetland and wetland of International importance under Ramsar Convention.
- 4 Irrawaddy Dolphin

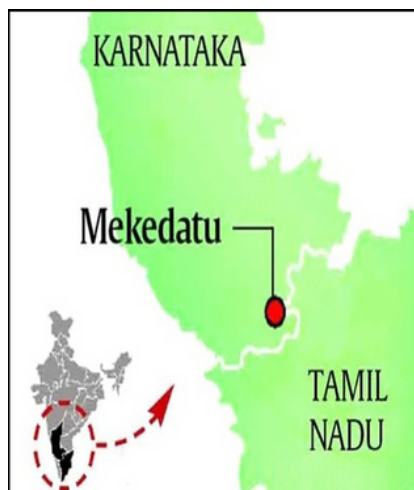
Chilika Lake in Orissa and Keoladeo National Park in Rajasthan were recognized as the first Ramsar sites in India.



Topic - 12

Mekedatu Project

- The Karnataka government is pressurising the Centre for approval of the construction of the Mekedatu Project on the Cauvery river.
- Mekedatu, meaning goat's leap, is a deep gorge situated at the confluence of the rivers Cauvery and its tributary Arkavathi
- Ontigondlu is the proposed reservoir site, situated at Ramanagara district in Karnataka about 100 km away from Bengaluru. It is the midst of the Cauvery Wildlife Sanctuary.
- The Rs. 9,000 crore project aims to store and supply water for drinking purposes for the Bengaluru city. Around 400 megawatts (MW) of power is also proposed to be generated through the project



Topic - 13

REAM NAVAL BASE

- A Chinese base in Cambodia could become a chokepoint in the Gulf of Thailand close to the strategically important Malacca Strait that has prompted global concern that it will be used by Beijing as a naval outpost on the Gulf of Thailand.
- China's 2nd Overseas naval base after Djibouti.



Topic - 14

KHEER BHAWANI TEMPLE

- The temple is dedicated to the goddess Ragnya Devi.
- Situated 30 km from Srinagar city, it is one of the most sacred pilgrimage sites for Kashmiri Hindus
- The temple gets its name from kheer, or milk and rice pudding, that pilgrims pour into the spring inside the temple complex as an offering to the goddess.
- Maharaja Pratap Singh built this temple in 1912, which was later renovated by Maharaja Hari Singh
- The shrine has a hexagonal spring



Topic - 15

Chulliyar Dam

- Chulliyar Dam is one of the major irrigation project in Palakkad, Kerala.
- Constructed in 1960, it is built across the Chulliyar River, one of the tributaries of the river Gayathripuzha.
- Gayathripuzha is one of the main tributaries of the Bharathapuzha River, the second-longest river in Kerala, south India.
- The adjacent Nelliampathy Mountains multiply the charm of this locality.



Topic - 16

Ganga Gram

- Ganga Gram is a project for sanitation based integrated development of all 4470 villages along the River Ganga.
- The works include rural sanitation, development of water bodies and river ghats, construction/modernization of crematoria, etc.
- These works are done in coordination with NMCG (National Mission for Clean Ganga).



Topic - 17

SBM ODF Plus and ODF Plus Plus Protocol

- To make ODF achievements sustainable and address the issue of holistic sanitation, there is a need to address the entire sanitation value chain.
- SBM ODF Plus (ODF+) & ODF Plus Plus (ODF++) are geared towards achieving this objective
- The SBM ODF Plus (ODF+) protocol focuses on sustaining community/ public toilet usage by ensuring their functionality, cleanliness and maintenance
- The SBM ODF plus Plus (ODF++) will focus on achieving sanitation sustainability by addressing complete sanitation value chain, including safe containment, processing and disposal of fecal sludge and septage.

Topic - 18

O-SMART

- Ocean Services, Technology, Observations, Resources Modelling and Science (O-SMART) is an umbrella scheme for the development of ocean activities
- It aimed at stepping up ocean research and setting up early warning weather systems.

Topic - 19

Google Tax

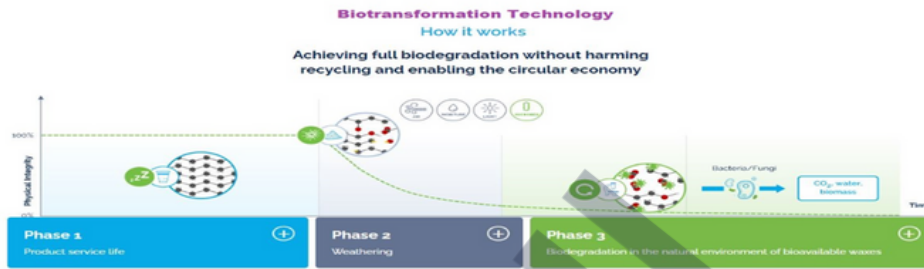
- It is a tax on the income as accrued to a foreign e-commerce company outside of India.
- Any person or entity that makes a payment exceeding Rs 1 lakh in a financial year to a non-resident technology company will need to withhold 6% tax on the gross amount being paid as an equalisation levy or Google tax. This tax, however, is only applicable when the payment has been made to avail certain B2B services from these technology companies.

Topic - 20

- It was launched on the lines of Operation Flood to double the income of farmers by end of 2022.
- It aims to promote farmer producers organizations, agri-logistics, processing facilities and professional management.
- It is essentially a price fixation scheme that aims to ensure farmers are given the right price for their produce.
- The main objective of the project is to reduce price volatility in agriculture commodities such as vegetables.
- Initially, Government has decided to start focusing on three basic vegetables namely **tomatoes, onions and potatoes.**
- NAFED will be the Nodal Agency to implement price stabilisation measures.

Topic - 21

Biotransformation Technology



- Biotransformation technology is a novel approach to ensure plastics that escape refuse streams are processed efficiently and broken down.
- The technology was co-developed by Polymateria and the Imperial College in London, UK.

Topic - 22

MQ-9B predator drone deal

- India, U.S. keen to conclude \$3 billion MQ-9B predator drone deal
- This will help to strengthen overall surveillance apparatus along the Line of Actual Control (LAC) and the Indian Ocean.



Topic - 23

Betta-Kuruba tribe

- Recently the Lok Sabha passed the Scheduled Tribes(Fourth Amendment) Bill, 2022 to include Betta-Kuruba on the Scheduled Tribes list.
- The Betta Kuruba (Betta meaning 'Hill', Kuruba meaning 'shepherd') tribe lives in the hilly regions of Karnataka, and is one of the few indigenous communities of the Nilgiris.
- They speak Betta Kurumba language which is a Dravidian language closely related to Tamil.
- They are generally believed to be the descendants of the Pallavas.
- Consanguineous marriages like cross-cousin marriages are preferred among the Kurumbas

Topic - 24

Advance Authorization Scheme (AAS)

- Recently, the Directorate General of Foreign Trade (DGFT) simplified the process of Levying Composition fees in case of extension of the Export Obligation Period under the Advance Authorisation Scheme (AAS).
- It allows duty free import of inputs, which are physically incorporated in an export product
- In addition to any inputs, packaging material, fuel, oil, catalyst which is consumed / utilized in the process of production of export product, is also be allowed.
- Directorate General of Foreign Trade(DGFT) provides a sector-wise list of Standard Input-Output Norms (SION) under which the exporters may choose to apply

Directorate General of Foreign Trade:

- Directorate General of Foreign Trade (DGFT) Organization is an attached office of the Ministry of Commerce and Industry and is headed by Director General of Foreign Trade.
- Headquarters - New Delhi.
- It is responsible for implementing the Foreign Trade Policy with the main objective of promoting India's exports.

Topic - 25

The T+1 Settlement Cycle

- After China, India will become the second country in the world to start the tradeplus-one (T+1) settlement cycle in top listed securities bringing operational efficiency
- The T+1 settlement cycle means that trade-related settlements must be done within a day, or 24 hours, of the completion of a transaction
- In the T+1 format, if an investor sells a share, he/she will get the money within a day, and the buyer will get the shares in his/her Demat account also within a day.
- This will also help investors in reducing the overall capital requirements with the margins getting released on T+1 day, and in getting the funds in the bank account within 24 hours of the sale of shares efficiently.

Topic - 26

Aegean Sea

- Turkey says Greece has been building a military presence in violation of treaties that guarantee the unarmed status of the Aegean islands
- It argues the islands were ceded to Greece on the condition they remained demilitarised.



Topic - 27

Olive Ridley turtles

- Recently, experts reported that suitable climatic and beach conditions are the reasons for the early mass nesting of Olive Ridley turtles.
- The Olive ridley turtles are the smallest and most abundant of all sea turtles found in the world.
- They are found to be inhabiting the warm waters of the Pacific, Atlantic, and Indian oceans.
- They are carnivores and feed mainly on jellyfish, shrimp, snails, crabs, molluscs, and a variety of fish and their eggs.
- The males and females grow to the same size



Topic - 28

Rakhigarhi

- Rakhigarhi is an endangered Harappan site in Haryana.
- Rakhigarhi is an archaeological site located in Hisar district (Haryana), in the Ghaggar-Hakra river plain.
- Rakhigarhi is the largest Harappan site in the Indian subcontinent
- Dating back to 2600-1900 BCE.
- The site is in danger of being destroyed by rampant soil mining, encroachment, and theft of excavated artefacts for sale



Topic - 29

International Electrotechnical Commission (IEC)

- India wins the International Electrotechnical Commission (IEC) Vice Presidency and Strategic Management Board (SMB) Chair for the 2023-25 term.
- The IEC is a global, not-for-profit membership organization that brings together more than 170 countries including India and coordinates the work of 20 000 experts globally.
- The IEC was founded on 26-27 June 1906 in London, UK. Ever since it has made electrical and electronic technologies safer, more efficient and reliable.
- All electrotechnologies are covered by IEC Standards

Topic - 30

National Institute of Biologicals

- Recently Health Minister virtually inaugurates National Summit on Quality of Biologicals.
- It was set up in 1992 as apex autonomous institute under the administrative control of Ministry of Health and Family Welfare.
- It is performing primary statutory function of Quality Control of Biologicals. e.g., Insulin, erythropoietin, blood products, diagnostic kits.

Topic - 31

Web 5.0

- Web 1.0 was first generation of global digital communications network.
- It is often referred to as the read-only Internet made of static web-pages
- Web2.0 was the read and write Internet.
- Users were now able to communicate with servers and other users leading to the creation of the social web. This is the World Wide Web that we use today
- Web 3.0 is an evolving term used to refer to next generation of Internet – a read write-execute web – with decentralization as its bedrock
- Web 5.0 is aimed at building an extra decentralized web that puts you in control of your data and identity

Topic - 32

Neo Banks

- Neo-banks are digital-only banking platforms that operate solely online. Simply put, they do not have a physical presence.
- As the Reserve Bank of India (RBI) does not permit fully-digital banking establishments yet, neo-banks in the country use partnerships with physical banks to deliver some of their key services.
- The differences between neo-banks and traditional banks
- Digital banks act as an extension or online-only arm of traditional banks.
- Neo-banks are completely digital, existing mostly independently of traditional banks. They have no physical branch locations, unlike traditional banks

Topic - 33

REVAMPED DISTRIBUTION SECTOR SCHEME (RDSS)

- Ministry of Power launched RDSS.
- It aims to improve the operational efficiencies and financial sustainability of all DISCOMs/ Power Departments excluding Private Sector DISCOMs
- Rural Electrification Corporation (REC) and Power Finance Corporation (PFC) have been nominated as nodal agencies.

Objectives

- Reduction of Aggregate Technical & Commercial (AT&C) losses to pan-India levels of 12-15% by 2024- 25
- Reduction of Average Cost of supply (ACS)- Average Revenue Realised (ARR) gap to zero by 2024-25.
- Developing Institutional Capabilities for Modern DISCOMs

Topic - 34

Inter state council



Tamil Nadu Chief Minister wrote to Prime Minister of India asking that at least three meetings of the Inter-State Council should be held every year to strengthen the spirit of cooperative federalism.



Inter-State Council Article 263 of the Indian Constitution, an Inter-State Council (ISC) may be constituted if it seems to the President at any time that the public interests would be served by the creation of a Council.



It was set up in 1990 through a presidential ordinance for the first time as per the recommendations of the Sarkaria Commission under the Ministry of Home affairs.

Composition



Prime Minister acts as the chairman of the council.



Union Ministers of Cabinet rank in the Union.



Council of Ministers nominated by the Prime Minister.



Chief Ministers of all states.



Chief Ministers of Union Territories having a Legislative Assembly.



Administrators of UTs not having a Legislative Assembly.



Governors of the states being administered under President's rule.

- **Functions-Inter-State Council is a recommendatory body with duties to investigate and discuss the subjects of common interest between the Union and State(s) or among the States.**

Topic - 35

I2U2

- **Prime Minister of India participated in first-ever I2U2 Virtual Summit along with the heads of the other members of the grouping.**
- **I2U2 stands for India, Israel, the UAE, and the US, and was also referred to as the West Asian Quad.**
- **It aims to discuss common areas of mutual interest, to strengthen economic partnership in trade and investment in our respective regions and beyond.**
- **Six areas of cooperation have been identified by the countries mutually, and the aim is to encourage joint investments in water, energy, transportation, space, health, and food security.**

Topic - 36

SNOW LEOPARD

- According to a study by the Zoological Survey of India, snow leopard regulates the populations of its herbivores prey species Siberian ibex and blue sheep.
- Hence, a long-term absence of snow leopards could cause depletion of vegetation cover.
- Schedule-I species of the Indian Wildlife (Protection) Act, 1972.
- IUCN Red list status: Vulnerable
- **Habitat:** mountainous landscape of central Asia covering Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim.
- **Threats:** loss of natural prey species, human animal conflict and illegal trade of its fur and bones

Topic - 37

Tongo Volcano

- Recently, a volcano erupted in the southern Pacific Island of Tonga, which triggered Tsunami waves around the Pacific.
- The Tonga Islands occur along the Ring of Fire

Topic - 38

CONSTITUTION BENCH

- Recently, CJI assured that there will be at least one Constitution Bench functioning throughout the year in the SC
- A **Constitution Bench** is a bench of the SC having 5 or more judges on it.
- **Set up by the CJI**
- **Article 143:** Case involves a substantial question of law pertaining to the interpretation of the Constitution.
- **Article 145(3):** President of India has sought the SC's opinion on a question of fact or law under Article 143

Topic - 39

INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW), 1978

- **STCW 1978, was adopted by the International Conference on Training and Certification of Seafarers.**
- **Compliance and implementation to convention is looked after by International Maritime Organization (IMO) as a specialized UN agency**
- **HQ: Geneva**

Topic - 40

Roshni

- Union Minister launches India's first saline water LED lamps 'Roshni'
- Developed by National Institute of Ocean Technology(NIOT)
- This lantern can also be used in hinterlands, where seawater is not available, as any saline water or normal water mixed with the common salt can be used to power the lantern, which is not only cost-effective but very easy to operate.



Topic - 41

Martand Temple

- The Martand Temple was built by the Karkota dynasty king Lalitaditya Muktapida, who ruled Kashmir from 725 AD to 753 AD
- Lalitaditya built his capital at Parihaspora, the ruins of which also survive to this day.
- Dedicated to Vishnu-Surya, the Martand Temple has three distinct chambers—the mandapa, the garbhagriha, and the antralaya—probably the only three-chambered temple in Kashmir.
- The temple is built in a unique Kashmiri style, though it has definite Gandhar influences.”

Topic - 42

Kushiyara river water agreement

- The Kushiyara river water agreement signed between India and Bangladesh on September 6 2022 is the first major water sharing accord between the two friendly neighbours since the Ganga water treaty in 1996.
- Kushiyara river is a distributary of the Barak River which originates in the uplands of Assam and flows through it, and then on to Bangladesh.
- Barak River rises in Manipur and is part of Surma-Meghna River System.
- The water of Kushiyara will be channelled through the Rahimpur Canal project in Sylhet.

Topic - 43

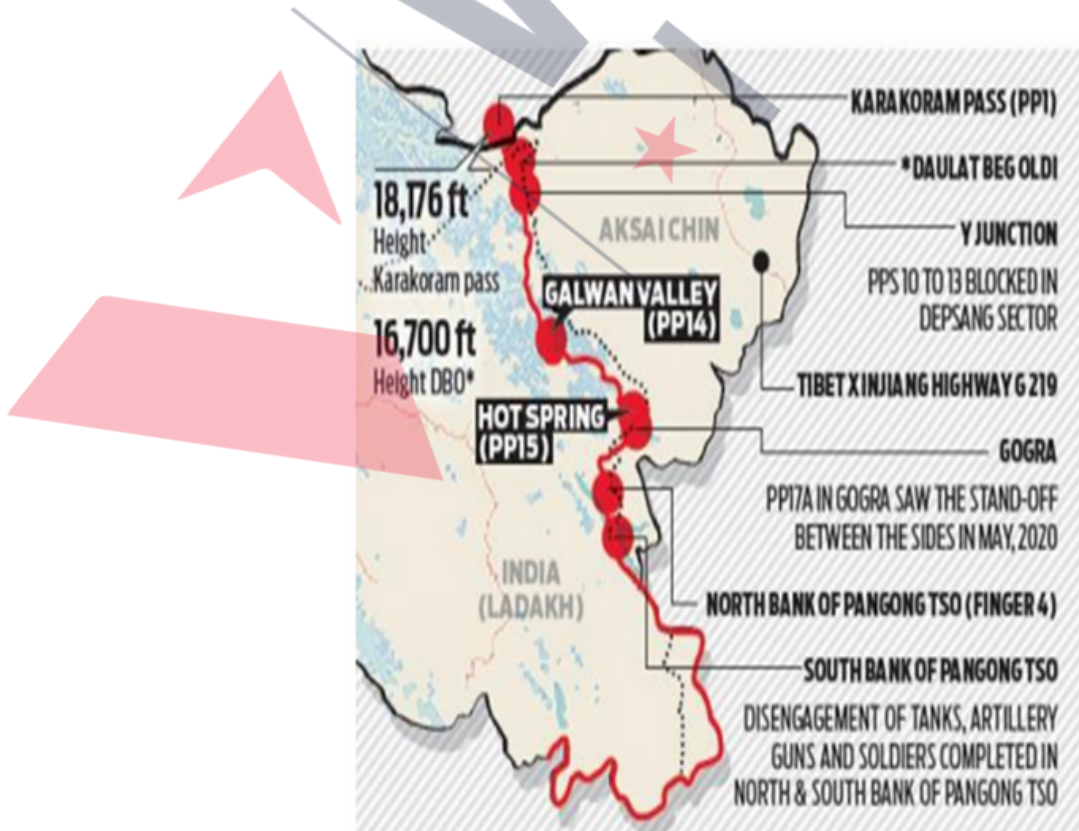
LoRa (Long Range Radio) technology

- The Institute for Development and Research in Banking Technology (IDRBT) develops a new low-cost financial network called LoRa (Long Range Radio) technology to take banking to remote areas. They are the first in the world to develop this network.
- LoRa or Long-Range Radio technology is a wireless modulation technique which allows long range communication using chirp spread spectrum.
- It uses dedicated radios and limits interferences from other devices.
- Now, banks can use this technology as their own private network and send encrypted texts to conduct financial transactions

Topic - 44

Gogra-Hotsprings area

- India and China announced that their Armies have begun to disengage from Patrolling Point 15 in the Gogra-Hotsprings area of eastern Ladakh, marking a step forward towards ending the standoff ongoing since May 2020.
- PP15 and PP17A are two of the 65 patrolling points in Ladakh along the LAC
- These patrolling points are on the LAC, and troops access these points to assert their control over the territory.



Topic - 45

Mangarh Dham

- The Prime Minister of India will pay tribute to the unsung heroes of the Bhil tribal community, during his visit to the Mangarh Dham in Rajasthan's Banswara district
- Mangarh Dham is known for the massacre of tribals that took place six years before Jallianwalla Bagh and is sometimes referred to as the Adivasi Jallianwala
- Bhils Tribal group
- Bhil tribe is called Dhanush Purush of India because they are highly adept at learning Dhanush.
- Bhils are a group of tribal Indians scattered throughout India from Gujarat in the west to Tripura in the Far East
- Ghoomar is a traditional folk dance of the Bhil tribe and symbol of femininity.

Topic - 46

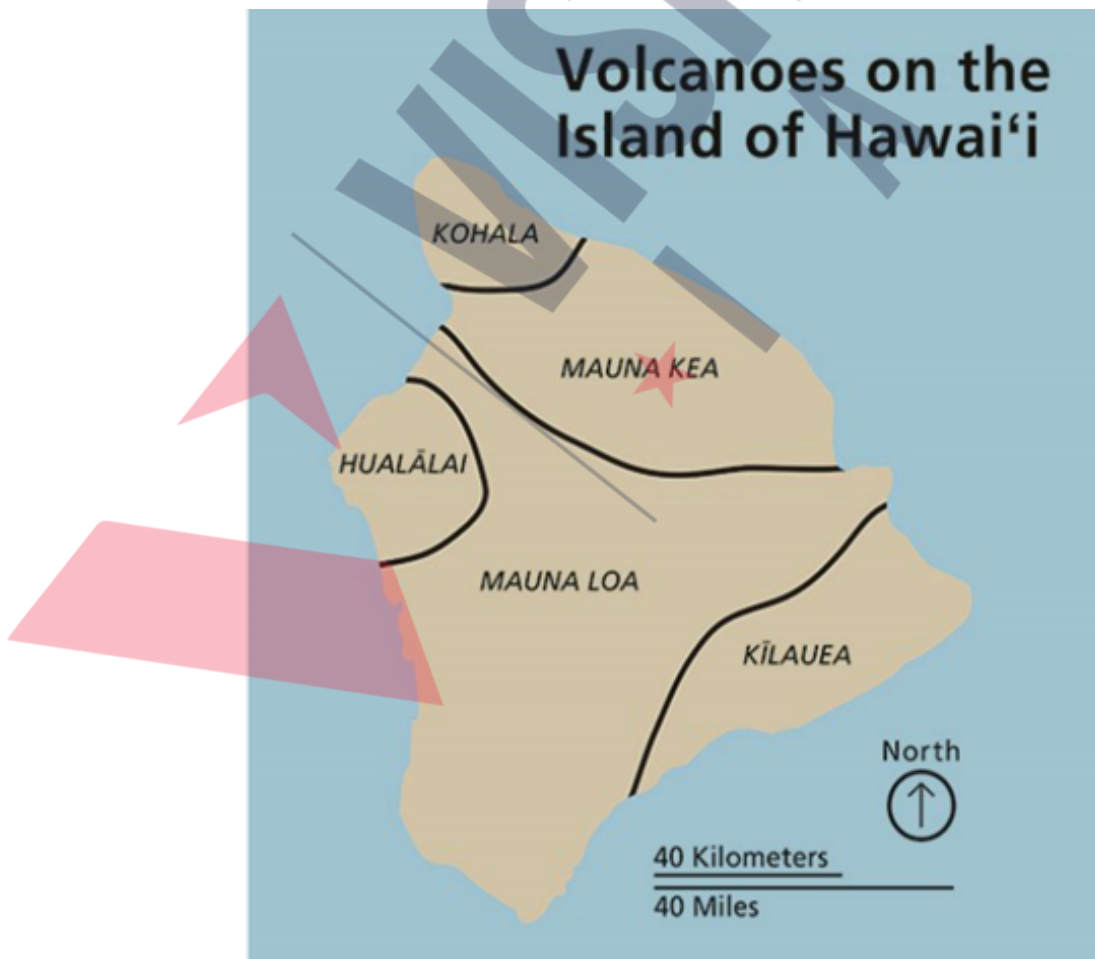
Blue Flag certification

- Two beaches in Lakshadweep, have been accorded the Blue Flag tag
- India now has 12 blue beaches
- The Blue Flag is an exclusive eco-label or certification that is given to coastal locations around the world as a badge of environmental honour.
- The Blue Flag programme is run by the Copenhagen, Denmark-headquartered Foundation for Environmental Education (FEE), a non-profit which, through its work, contributes to the Sustainable Development Goals (SDGs) of the United Nations.

Topic - 47

Mt. Mauna Loa

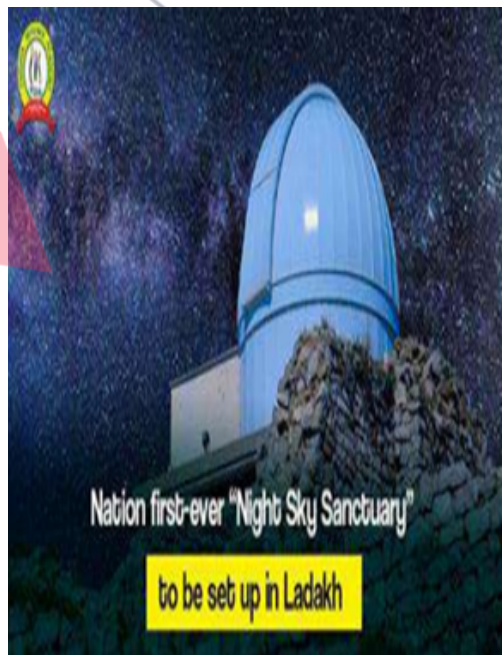
- The ground is shaking and swelling at Mauna Loa, the largest active volcano in the world, indicating that it could erupt
- Mauna Loa is one of five volcanoes that together make up the Big Island of Hawaii, which is the southernmost island in the Hawaiian archipelago



Topic - 48

Night sky sanctuary in Ladakh

- It is being set up by Council of Scientific and Industrial Research under Union Ministry of Science & Technology.
- The proposed Dark Sky Reserve will be located at Hanle in Ladakh as a part of Changthang Wildlife Sanctuary
- The Changthang Wildlife Sanctuary is a high altitude wildlife sanctuary located in the Ladakh adjunct of the Changthang plateau
- Hanle is located in Ladakh's cold desert region, away from any form of human disturbance with clear sky conditions and dry weather conditions that exist throughout the year



Topic - 49

Wassenaar arrangement

- India will assume chairmanship of Wassenaar arrangement on 1 Jan 2023
- Established in 1996
- Member states exchange information on various issues like transfer of conventional arms and dual-use goods and technologies
- It is a voluntary multilateral export control regime

Topic - 50

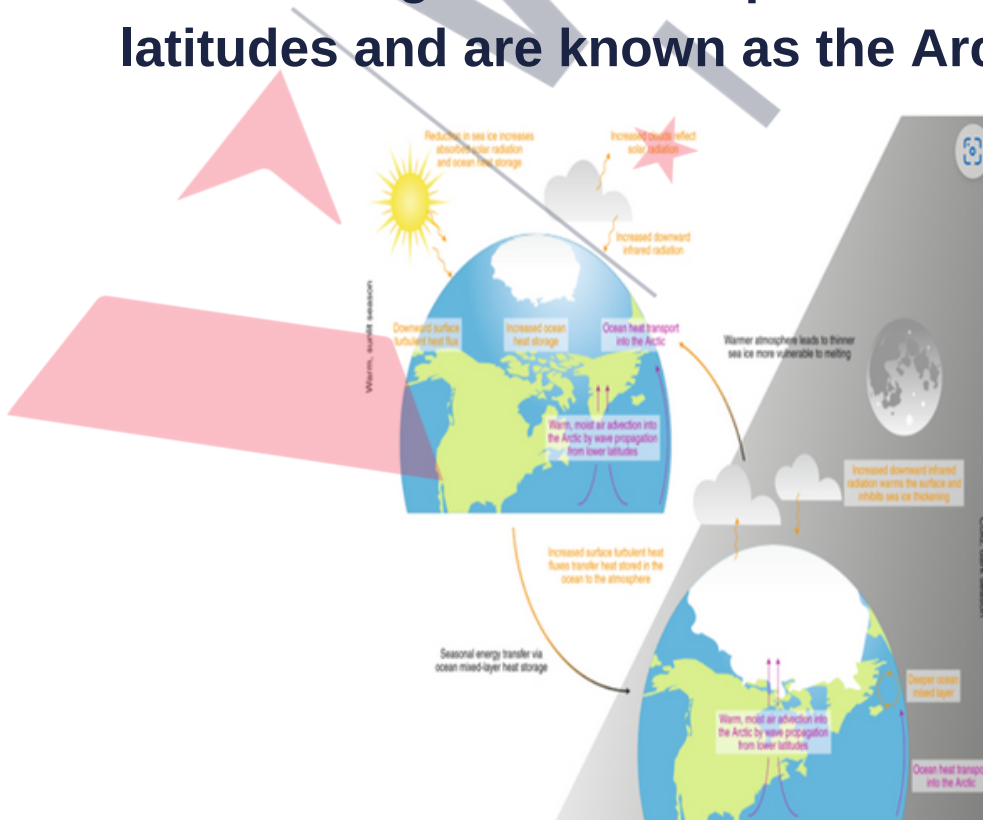
Singapore Declaration

- The 17th Asia Pacific Regional Meeting (APRM) of the International Labour
- The Singapore Declaration aims to ensure social dialogue to address challenges associated with labour market and finding solutions for crises like the COVID-19 pandemic, natural disasters, and economic uncertainty Organization (ILO) was held in Singapore
- It provides a shared vision of 10-point priorities of national action of members of the ILO to deal with issues like dwindling wages, inflation and unemployment.
- It recognized that social dialogue is vital for gaining trust and resilience in the labour market institution, sustainable recovery, and inclusive global progress.

Topic - 51

ARCTIC AMPLIFICATION

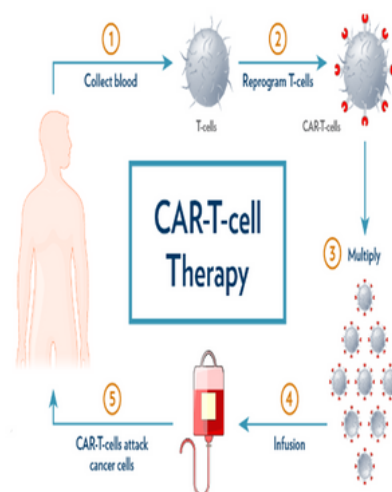
- Global warming has hastened due to anthropogenic forces or human activities since pre-industrial times and has increased the planet's average temperature by 1.1 degrees Celsius.
- While changes are witnessed across the planet, any change in the surface air temperature and the net radiation balance tend to produce larger changes at the north and south poles.
- This phenomenon is known as polar amplification; these changes are more pronounced at the northern latitudes and are known as the Arctic amplification.



Topic - 51

51.CAR-T therapy

- CAR T-Cell Therapy for treatment of Cancer
- Unlike chemotherapy or immunotherapy, which require mass-produced injectable or oral medication, CAR T-cell therapies use a patient's own cells.
- They are modified in the laboratory to activate T-cells, a component of immune cells, to attack tumours.
- These modified cells are then infused back into the patient's bloodstream after conditioning them to multiply more effectively.
- The cells are even more specific than targeted agents and directly activate the patient's immune system against cancer, making the treatment more clinically effective.
- This is why they're called 'living drugs'.



Topic - 52

iNCOVACC

- Incovacc is the world's first intranasal vaccine to be approved as a booster dose.
- iNCOVACC, co-developed by Bharat Biotech and the U.S.-based Washington University, was approved in November for restricted emergency use for those aged 18 or older.
- The nasal vaccine is approved both as a primary dose and a heterologous booster.
- Unlike Covaxin, which is an inactivated coronavirus injected along with an adjuvant, iNCOVACC is an adenovirus-vectored vaccine with a prefusion stabilised spike protein, which is more like the technology employed in the Covishield vaccines

Topic - 53

GAGAN (GPS Aided Geo Augmented Navigation)

GAGAN is an acronym for GPS Aided GEO Augmented Navigation. • It is a Space Based Augmentation System (SBAS) jointly developed by ISRO and AAI to provide the best possible navigational services over Indian airspace with the capability of expanding to neighbouring countries. • GAGAN is a system of satellites and ground stations that provide GPS signal corrections, giving you better position accuracy.

Topic - 54 **NavIC**

- To promote the use of 'NAVigation with the Indian Constellation' (NavIC), the Indian Space Research Organisation (ISRO) will introduce the L1 frequency in all its future satellites, for civilian navigational use.
- NavIC: • It is the navigation satellite system and homegrown alternative to GPS
- L1 frequency:**
- The L1 is the oldest and most established GPS signals
- Even the less sophisticated, devices such as smartwatches can receive it.
- Thus, with this band, the use of NavIC in civilian-use gadgets can go up.
- GPS satellites generally transmit on two frequencies—L1 (42 MHz) and L2 (1227.60 MHz)

Topic - 55

Agristack Project

- Agristack is a collection of technologies and digital databases that focuses on farmers and the agricultural sector.
- Agristack will create a unified platform for farmers to provide them end to end services across the agriculture food value chain.
- It is in line with the Centre's Digital India programme, aimed at providing a broader push to digitise data in India, from land titles to medical records.
- Each farmer will have a unique digital identification (farmers' ID) that contains personal details
- Each ID will be linked to the individual's digital national ID Aadhaar.

Topic - 56

Zonal Councils

- Union Home and Cooperation Minister Shri Amit Shah presided over the 25th Eastern Zonal Council meeting .
- Five Zonal Councils were set up vide Part-III of the States Re-organisation Act, 1956 – north, south, east, west and central. • The North Eastern States i.e. (i) Assam (ii) Arunachal Pradesh (iii) Manipur (iv) Tripura (v) Mizoram (vi) Meghalaya and (vii) Nagaland are not included in the Zo
- Chairman – The Union Home Minister is the Chairman of each of these Councils.
- Vice Chairman – The Chief Ministers of the States included in each zone act as ViceChairman of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.
- Members- Chief Minister and two other Ministers as nominated by the Governor from each of the States and two members from Union Territories included in the zone.nal Councils

Topic - 57

Compensatory Afforestation Fund Management and Planning Authority (CAMPA57).

- Establishment in 2004, the Ministry of Environment and Forests constituted the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) to oversee and manage the Compensatory Afforestation Fund (CAF) as directed by the Supreme Court
- The Funds are meant to promote afforestation and regeneration activities as a way of compensating for forest land diverted to non-forest uses. • National CAMPA Advisory Council has been established

Topic - 58

E-Rupee

- Reserve Bank of India (RBI) has announced the launch of India's much-awaited Central Bank Digital Currency (CBDC), E-Rupee, a sort of official cryptocurrency.
- RBI defines the CBDC as the digital form of currency notes issued by a central bank.
- It is a sovereign or entirely independent currency issued by the central bank (in this case, RBI), in accordance with the country's monetary policy

Topic - 59

Delegated Legislation

- Recently, the majority ruling of the Supreme Court upheld the validity of the delegated legislation in the Centre's 2016 decision on demonetization
- Parliament routinely delegates certain functions to authorities established by law since every aspect cannot be dealt with directly by the lawmakers themselves.
- This delegation of powers is noted in statutes, which are commonly referred to as delegated legislation.
- Regulations and by-laws under the legislation are classic examples of delegated legislation.

Topic - 60

Y20 Summit

- Recently Union Minister for Youth Affairs and Sports Anurag Thakur launched the themes of the Y20 summit.
- The first ever Y20 (Youth 20) Summit is to be held in India on the sidelines of the G20 Summit.
- The Y20 Summit is likely to be held in Guwahati.
- It will focus on themes of future of work; climate change and disaster risk reduction; peacebuilding and reconciliation; and youth in democracy.
- Y20 will focus on global youth leadership and partnership

Topic - 61

Vibrant Village Programme

- Amit Shah launches Vibrant Villages Programme in Arunachal Pradesh
- This village development scheme was first announced in the 2022 Budget.
- The aims of the scheme are to identify and develop the economic drivers based on local, natural, human and other resources of the border villages,
- The programme's targets are to provide comprehensive development of villages on the border with China and improvement in the quality of life of people living in identified border villages.
- The development in these villages will help prevent migration, and thus also boost security.
- States covered- Arunachal Pradesh, Sikkim, Uttarakhand and Himachal Pradesh and the Union Territory of Ladakh.
- Ministry- Union Home Minister and Minister of Cooperation

Topic - 62

Treaty of High Seas

- It is also known as Biodiversity Beyond National Jurisdiction Treaty
- The high seas treaty is the legal framework agreed upon by the United Nations member states for parts of the ocean outside national boundaries.
- It will put limits on how much fishing can take place, exploration activities like deep sea mining etc.
- This is the first-ever treaty of this nature.
- The UN High Seas Treaty places 30% of the world's oceans into protected areas, puts more money into marine conservation, and means new rules for mining at sea
- Treaty was negotiated under United Nations Convention on Laws of the Sea (UNCLOS) of 1982 which governs countries' rights regarding marine resources.

Topic - 63

Caspian sea Break through treaty

- Five Caspian Sea states reached a breakthrough agreement on sovereign rights to the sea, paving the way for new oil and gas extraction and pipelines after more than two decades of disputes.
- Five Caspian Sea states (Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan)
- The treaty ends a spat over whether the Caspian is a sea or a lake, granting it special legal status and clarifying the maritime boundaries of each surrounding country.
- It also allows each to lay pipelines offshore with consent only from the neighbouring states affected, rather than from all Caspian Sea nations



Topic - 64

Dirty Bomb4

- A dirty bomb is a mix of explosives, such as dynamite, with radioactive material such as Uranium.
- When the dynamite or other explosives explodes it is scattered through the air.
- It doesn't need to contain highly refined radioactive material, as is used in a nuclear bomb. Instead, it could use radioactive materials from hospitals, nuclear power stations or research laboratories.
- This makes them much cheaper and quicker to make than nuclear weapons. They can also be carried in the back of a vehicle, for example.
- The Federation of American Scientists has calculated that if a bomb containing 9g (0.3oz) of cobalt-60 and 5kg of TNT were to be exploded at the tip of Manhattan, in New York, it would make the whole area of the city uninhabitable for decades.

Topic - 65

BharOS

- BharOS an indigenous operating system developed by the Indian Institute of Technology (IIT) Madras.
- The BharOS is an Indian government-funded project to develop a free and open-source operating system (OS) for use in government and public systems.
- The project aims to reduce the dependence on foreign OS in smartphones and promote the use of locally developed technology.
- BharOS comes with No Default Apps (NDA). This means that users are not forced to use apps that they may not be familiar with or that they may not trust.
- BharOS offers 'Native Over The Air' (NOTA) updates that can help to keep the devices secure

Making a dirty bomb

1 Source
eg hospital
equipment



2 Radioactive
material
extracted



3 Radioactive
material placed
with conventional
explosives



Topic - 66

Google's Bard

- Similar to ChatGPT, Google Bard is a large language model, also known as a conversational AI or chatbot trained to be informative and comprehensive.
- Bard is Google's own conversational AI chatbot and is based on LaMDA.
- Bard is built on Transformer technology – which is also the backbone of ChatGPT and other AI bots.
- Transformer technology, pioneered by Google and made open-source in 2017, is a neural network architecture, which is capable of making predictions based on inputs.
- Google has also not made clear the amount of knowledge that Bard possesses. For instance, with ChatGPT, we know its knowledge is limited to events till 2021

BARD VS CHATGPT		
	Bard	ChatGPT
Language model	LaMDA	GPT-3
Source of Information	Internet	Data feed
Information cutoff	None	2021
Access	Limited	Unlimited
Limitations	Biases of Internet	Biases of data

Topic - 67

Santhal tribes

- Droupadi Murmu from Santhal community elected President of the country.
- Santhal is the third largest Scheduled Tribe community in the country after Gond and Bhil.
- The Santhal population is mostly distributed in Odisha, Jharkhand and West Bengal. Ms. Murmu's home district, Mayurbhanj, has one of the largest concentrations of the tribe.
- In Odisha, Santhals are found in Keonjhar and Balasore, other than in Mayurbhanj district.
- Santhals speak Santhali which has its own script called Ol Chiki invented by Pundit Raghunath Murmu.
- Santhali in the Ol Chiki script has been included in the Eighth Schedule to the Constitution. Ol-Chiki is the medium of instruction in many schools across the State.
- Prominent people in Hemant Soren, a Santhal, is the Chief Minister of Jharkhand. Girish Chandra Murmu, the first Lieutenant-Governor of the Union Territory of Jammu and Kashmir, is now Comptroller and Auditor-General of India.

Topic - 68

Snapdragon satellite

- Qualcomm Introduces Snapdragon Satellite, The World's First Satellite-Based Solution Capable of Supporting Two-Way Messaging for Premium Smartphones and Beyond
- Snapdragon Satellite offers truly global coverage from pole to pole and can support two-way messaging for emergency use, SMS texting, and other messaging applications – for a variety of purposes such as emergencies or recreation in remote, rural and offshore locations.
- In two-way messaging like Whatsapp, both participants can send or receive messages simultaneously. But in one-way messaging apps offering SMS services, only one operation is possible.

Topic - 69

INS Vagir

- Indian Navy's fifth stealth Scorpene class Submarine INS Vagir was commissioned into the Indian Navy today, Jan 2023 at the Naval Dockyard Mumbai
- Six Scorpene Class submarines are being built in India by the Mazagon Dock Shipbuilders Limited (MDL) Mumbai
- Vagir has the distinction of having the lowest build time among all indigenously manufactured submarines till date.
- The Scorpene Submarines are extremely potent platforms, they have advanced stealth features and are also equipped with both long range guided torpedoes as well as anti-ship missiles.
- These submarine have a state of the art SONAR suite and sensor suite permitting outstanding operational capabilities.

Topic - 70

Marburg virus disease outbreak

- The World Health Organization recently said that Equatorial Guinea had confirmed its first-ever outbreak of Marburg disease.
- MVD, earlier known as Marburg hemorrhagic fever, is a rare but severe hemorrhagic fever that affects both people and non-human primates.
- Causative agent: MVD is caused by the Marburg virus, a genetically unique zoonotic (animal-borne) RNA virus. Marburg and Ebola viruses are both members of the Filoviridae family (filovirus).
- Transmission: The Marburg virus is transmitted to people from fruit bats and spreads among humans through human-to-human transmission.

Topic - 71

Project Vanni

- Indian Institute of Sciences (IISc), ARTPARK (AI and Robotics Technology Park) and Google have come together for mapping the language diversity of India.
- Aim is to create data corpora of over 150,000 hours of speech, part of which will be transcribed in local scripts.
- The Project diligently collects and curates datasets of natural speech and text from about 1 million people across all 773 districts of India will be open-sourced.
- Open source is done through platforms like Bhashini (under the National Language Translation Mission, MeITY)
- Funding is done by Google.

Topic - 72

Bandicoot

- The Bandicoot Robot is the world's first robotic scavenger, developed as a Make in India and Swachh Bharat Abhiyan initiative by National Award-winning startup Genrobotics.
- Kerala is the first state to use.



Topic - 73

Bharath 6G project

- The Indian government plans to financially support research pathways to advance connectivity goals and establish an apex body.

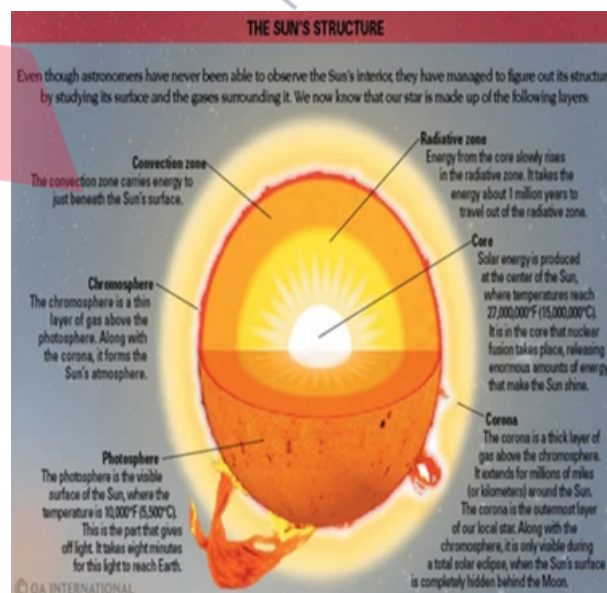
India's 6G goals include

- Guaranteeing every citizen a minimum bandwidth of 100Mbps
- Ensuring every gram panchayat has half TB (terabyte) per second of connectivity, and
- Providing over 50 million internet hotspots with thirteen per square kilometre

Topic - 74

Aditya-L1 Mission

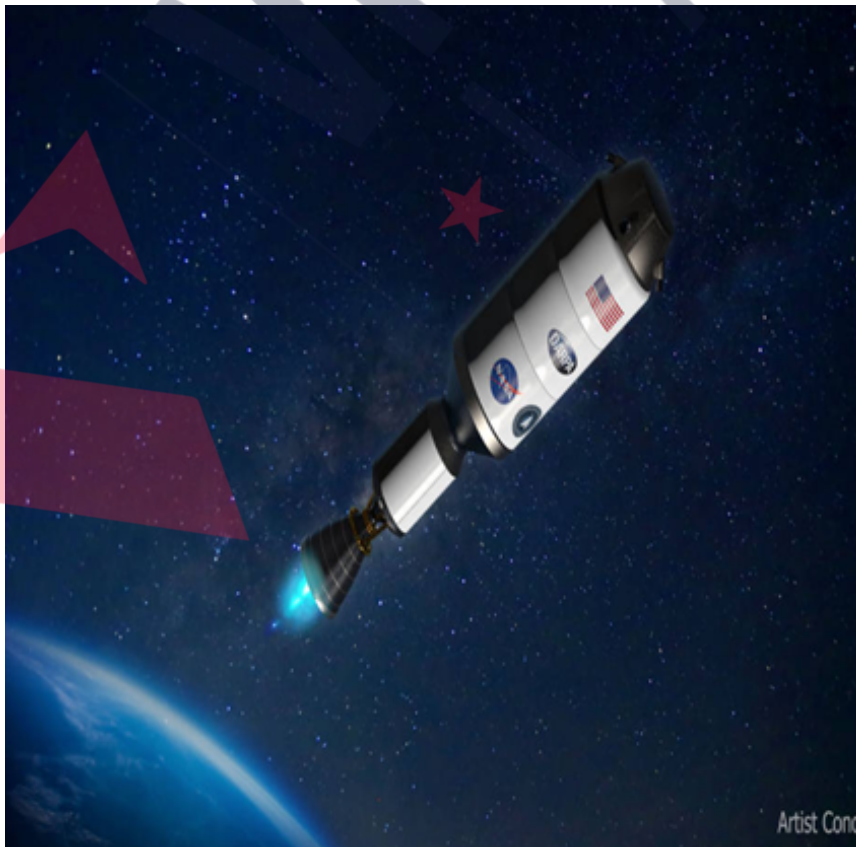
- Aditya-L1 is the first observatory-class space-based solar mission from India.
- A satellite around the L1 point has the major advantage of continuously viewing the Sun without occultation/eclipses.
- This position provides a greater advantage of observing solar activities continuously.
- Aditya-L1 carries seven payloads to observe the photosphere, chromosphere, and the outermost layers of the Sun (the corona) using electromagnetic and particle detectors.
- Lagrange Points are positions where the gravitational pull of two large masses precisely equals the centripetal force required for a small object to move with them.



Topic - 75

Darco

- DARPA of the USA is to launch the DRACO Spacecraft.
- DRACO stands for Demonstration Rocket for Agile Cislunar Operations. DRACO is to run on nuclear fission reaction.
- This is considered a big leap in the space industry
- The rocket that uses a nuclear fission reactor to fly is called a nuclear thermal rocket. No country on earth has succeeded in this technology



Topic - 76

Bodily Autonomy and Integrity

- SC recently ruled that no individual can be forced to be vaccinated as bodily autonomy and integrity are protected under Article 21 of Constitution
- It also said that government can impose restrictions on individual rights in public health interests if these restrictions meet the 3-fold requirement laid down by SC in Puttaswamy Judgement
- Three-fold test laid down in the judgement : The courts had the authority to determine whether the government's intrusions into an individual's personal autonomy satisfies the three-fold conditions.
- The three-fold requirements include –
- The activity must be backed by a law
- The state must have a legitimate interest to bring such a law that collides with fundamental right
- The state's infringement must be proportional to its aim.

Topic - 77

NEW INSURANCE RULES

The government has notified significant decisions of the insurance regulator IRDAI

- Increase in tie-up limits for intermediaries:
- Regulatory sandbox: increasing the experimentation period from 6 months to upto 36 months
- The Regulatory sandbox is a framework which provides a testing environment to the companies to enable them to test their innovative products, technologies, etc., in a controlled regulatory setting. It promotes innovation and technological solutions in the industry.

Topic - 79

La Perouse

- The biennial exercise La Perouse is between USA, France, Japan, Australia, UK
- Conducted by the French Navy
- Aimed at enhancing maritime domain awareness and optimising maritime coordination amongst the participating navies in the Indo-Pacific Region.
- Indigenously built guided missile frigate INS Sahyadri and fleet tanker INS Jyoti will be participating in this edition of the exercise

Topic - 80

Indian Space Policy 2023

- It lays down the roles and responsibilities of organisations such as Indian Space Research Organisation (ISRO), NewSpace India Limited (NSIL) and private sector entities.
- It aims to enhance the role of the Department of Space, boost activities of ISRO missions and give a larger participation of research, academia, startups and industry.
- It will pave the way forward with much required clarity in space reforms and augment private industry participation to drive the space economy opportunity for the country.

Topic - 81

Prussian blue insoluble formulations

- It was developed under the Technology Development Fund (TDF).
- The drug has been developed based on the technology of the Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi, a laboratory of the DRDO.
- The formulations are used for the decontamination of Cesium and Thallium.
- It is one of the critical medicines listed by the WHO for radiological and nuclear emergencies.
- The drug will be available under the trade name of Pru-Decorp™ and PruDecorp-MG.

Topic - 82

Idu Mishmi tribe

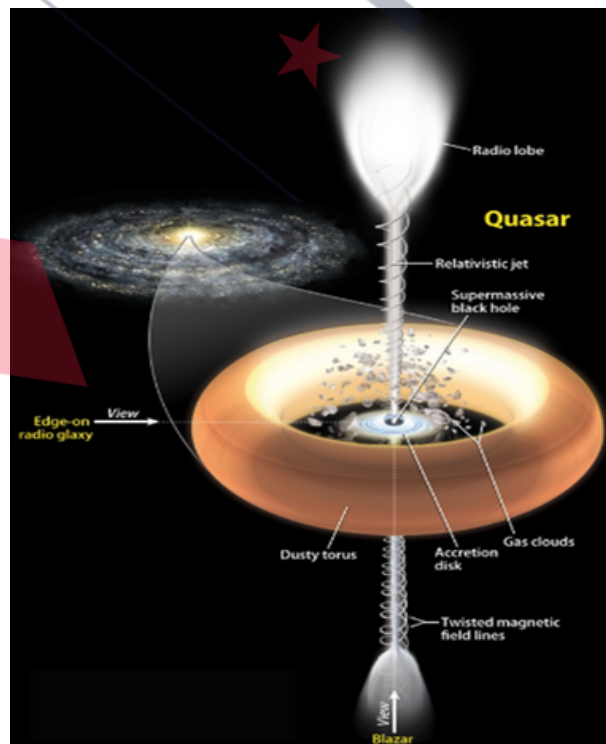
- The recent announcement by the National Tiger Conservation Authority (NTCA) that the Dibang Wildlife Sanctuary would soon be notified as a tiger reserve has caused disquiet among the area's Idu Mishmi people.
- The Idu Mishmi is a sub-tribe of the larger Mishmi group (the other two Mishmi groups are Digaru and Miju) in Arunachal Pradesh and neighbouring Tibet.
- They primarily live in Mishmi Hills, bordering Tibet in Arunachal Pradesh.
- Language 'Idu Mishmi', is considered endangered by UNESCO.



Topic - 83

Quasars

- Quasars are very luminous objects around black holes in faraway galaxies that emit jets at radio frequencies.
- Quasars are only found in galaxies that have supermassive black holes which power these bright discs.
- Most active galaxies have a supermassive black hole at the centre which sucks in surrounding objects. These objects while moving around a black hole emit energy before being sucked into the black hole. Quasars are formed from this energy.



Topic - 84

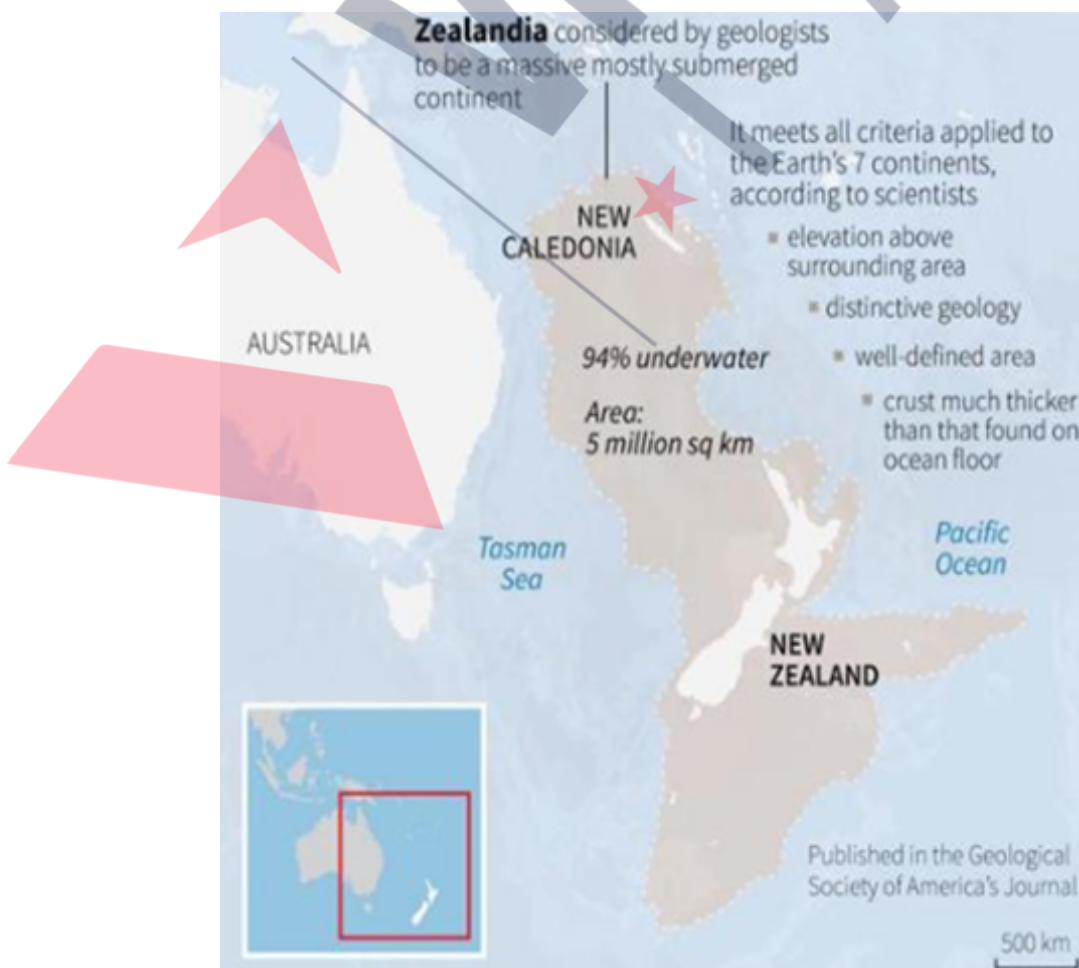
Ganga(Gir female calf)

- The National Dairy Research Institute, based in Haryana's Karnal, has produced the first-ever clone of a calf belonging to the indigenous GIR cow breed.
- The calf has been named Ganga.
- It is India's first cloned Gir female calf.
- Scientists used three animals for producing this calf
- Oocyte was taken from the sahiwal breed,
- A somatic cell from the gir breed,
- A surrogate animal was a crossbreed
- Cloning involves a number of different processes that can be used to produce genetically identical copies of a biological entity. The copied material, which has the same genetic makeup as the original, is referred to as a clone.

Topic - 85

Zealandia

- It is also known as Tasmantis due to its proximity to Tasman sea.
- It is a newly discovered geological continent submerged beneath the south-west Pacific Ocean.
- It is believed that it had broken off from Antarctica about 100 million years ago, and then from Australia about 80 million years ago as part of the breakup of super-continent Gondwanaland and sank beneath sea.



Topic - 86

Kuno National Park

- 8 cheetahs arrived from Namibia and were released into Kuno National Park on 17th September 2022 by the Prime Minister of India.
- Kuno National Park lies in Sheopur district of Madhya Pradesh in Central India near the Vindhyan Hills.
- Named after the Kuno River (One of the main tributaries of the Chambal River) that cuts across it, Kuno is primarily a grassland region.
- Project Cheetah-which is world's first inter-continental large wild carnivore translocation project.
- The cheetah was declared extinct from India in 1952.
- Cheetahs will help restore open forest and grassland ecosystems in India. This will help conserve biodiversity and enhance the ecosystem services like water security, carbon sequestration and soil moisture conservation, benefiting society at large.

Topic - 87

Red matter

- Recently, the U.S. scientists have claimed to produce the first commercially accessible material named red matter, which has superconducting properties at room temperature.
- Red matter is a mixture of Hydrogen, Nitrogen and a rare-Earth material called Lutetium
- Superconductors are materials that do not resist the flow of current or have zero resistance, below a fixed temperature, which is the critical temperature

Topic - 88

Keeladi Excavation

- Keeladi excavation site is a Sangam period settlement that is being excavated by the Archaeological Survey of India and the Tamil Nadu Archaeology Department.
- The settlement lies on the bank of the Vaigai River. This site is estimated to be from the period between the 5th century BCE and the 3rd century CE.

Topic - 89

Millet International Initiative for Research and Awareness (MIIRA)

- MIIRA will be aimed at coordinating millet research programmes at the international level.
- It is in line with the UN declaring 2023 as the International Year of Millets, the proposal for which was moved by India and supported by 72 countries.
- For MIIRA to take off, India will contribute the seed money, while each G20 member will later have to contribute to its budget in the form of a membership fee.
- The MIIRA secretariat will be in Delhi

Topic - 90

Assamese Gamosa

- Assamese Gamosa is one of the most recognisable cultural symbols of Assam
- It is a white rectangular piece of cloth with embroidered red borders.
- These are made of cotton, few utilized in special occasions are made from Silk too.
- Assamese Gamosa received the Geographical Indication (GI) tag in 2022



Topic - 91

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Topic - 92

Virtual digital Assets

- Finance Minister Nirmala Sitharaman, in her Budget 2022 speech on Tuesday (February 1), announced a 30 per cent tax on income from virtual digital assets
- Virtual digital asset refers to any information, code, number, or token (not being Indian currency or foreign currency) generated through cryptographic means or otherwise and can be called by whatever name.
- It can be transferred, stored, or traded electronically.
- Definition of VDA also specifically includes a non-fungible token,

Topic - 93

Operation Kaveri

- India has launched Operation Kaveri to evacuate around 4,000 of its citizens who are stranded in Sudan due to the conflict between the country's army and a paramilitary group.
- Operation Dost -Turkey-Syria earthquake
- Operation Ganga-War between Russia and Ukraine

Topic - 94

Haifa Port

- Israel Foreign Minister announced that Arab train networks in future would be carrying Indian goods to the Haifa port in Israel.
- The Haifa Port is located in northern Israel, adjacent to the city of Haifa along the Mediterranean Sea.
- It has a natural deep-water harbour, which operates all year long



Topic - 96

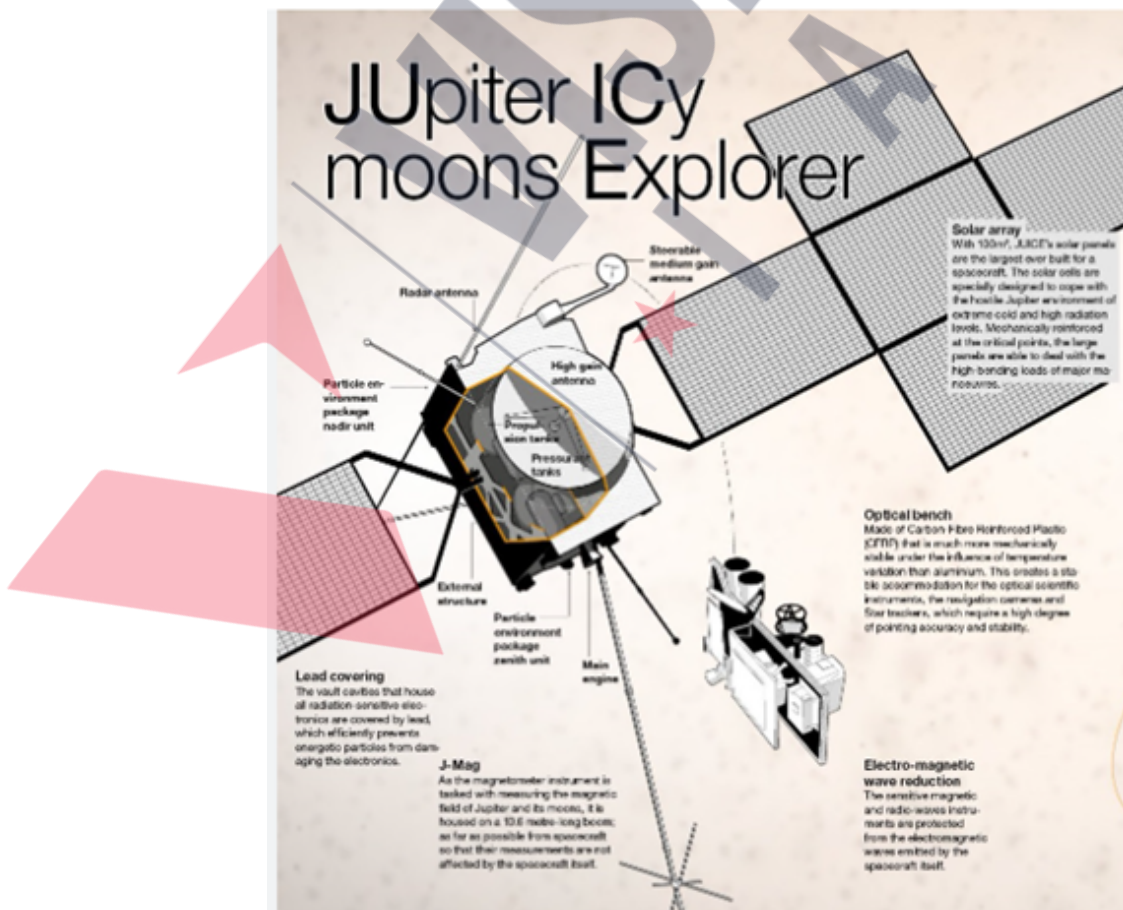
Bluebugging

- Bluebugging is a form of hacking that lets attackers access a device through its discoverable Bluetooth connection.
- Once a device or phone is bluebugged, a hacker can listen to the calls, read and send messages and steal and modify contacts.
- It started out as a threat to laptops with Bluetooth capability.
- Later hackers used the technique to target mobile phones and other devices
- Any Bluetooth-enabled device can be bluebugged. Wireless earbuds are also susceptible to such hacks. Apps that enable users to connect to their TWS (True Wireless Stereo) devices or earbuds can record conversations

Topic - 97

JUICE (Jupiter Icy Moon Explorer) Mission

- It is a European Space Agency (ESA) mission to explore Jupiter and three of its icy moons: Europa, Callisto and Ganymede.
- The probe aims to explore the possibilities of life in space and the origins of Jupiter.
- The probe will take nearly eight years to reach Jupiter.



Topic - 98

Project Elephant

- President Droupadi Murmu took part in Gaj Utsav at Kaziranga National Park and Tiger Reserve (KNPTR) in Assam to mark 30 years of Project Elephant.
- Project Elephant Launched in 1992
- Aim is to protect elephants and improve their habitat and corridors, reduce human elephant conflict

Topic - 99

MIST Submarine Cable System

- MIST is an 8,100 Km long international submarine cable communication network.
- It will traverse undersea to connect India with countries such as Myanmar, Thailand, Malaysia and Singapore.
- It will provide secure, reliable, robust and affordable telecom facilities in Asia with the main trunk route being from Tuas in Singapore to Mumbai in India.



Topic - 100

PARAM ANANTA Supercomputer

- **PARAM ANANTA, Supercomputer at IIT Gandhinagar dedicated to the nation under National Supercomputing Mission (NSM)**
- **It is a joint initiative of Ministry of Electronics and Information Technology (MeitY) and Department of Science and Technology (DST)**
- **PARAM ANANTA system is based on Direct Contact Liquid Cooling technology to obtain a high power usage effectiveness and thereby reducing the operational cost.**
- **Multiple applications from various scientific domains such as Weather and Climate, Bioinformatics, Computational Chemistry, Molecular Dynamics, Material Sciences, Computational Fluid Dynamics etc. have been installed on the system for the benefit of researchers.**
- **This high end computing system will be a great value addition for the research community.**