

Current Affairs Update (Aug 1-6)

National

District Legal Services Authorities (DLSAs)

PM addressed the inaugural session of the 1st DLSA meet. **DLSA** has been established to provide **free legal aid, organize Lok Adalat, legal literacy** for the poor.

About

- Established under **Legal Services Authorities Act (LSA) 1987**.
- District Legal Services Authority is **constituted in every District to implement Legal Aid Programmes and Schemes** in the District.
- There are **676 DLSA** in India (headed by a District judge (acting as Chairman))

Background:

Legal Services Institutions have been set up at various levels e.g.,

- NALSA (national level, CJI is a patron in chief)
- SLSA (state level, headed by the chief justice of HC)
- DLSA (district level)
- Taluka/sub-division level (TLSC) (Taluka level, headed by Civil Judge)

Eligibility: Women and children, Members of SC/ST, Industrial workmen, Victims of mass disaster/violence, Disabled persons, Persons in custody, etc.

Parliament passes bill to ban funding of weapons of mass destruction

- Parliament passed a bill (**The Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022**) which seeks to ban funding of weapons of mass destruction and also empowers the Centre to freeze, seize or attach financial assets and economic resources of people engaged in such activities.
- The previous act, the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, passed in 2005, only banned the manufacture of weapons of mass destruction.

Key Amendments:

- **Section 12A:** The amendment bill seeks to insert a **new Section 12A in the existing law which states that “no person shall finance any activity which is prohibited under this Act, or under the United Nations (Security Council) Act, 1947** or any other relevant Act for the time being in force, or by an order issued under any such Act, in relation to weapons of mass destruction and their delivery systems.”
- **Prevent financing of such activities:** To prevent persons from financing such activities, the central government may freeze, seize or attach funds, financial assets, or economic resources (whether owned, held, or controlled directly or indirectly).
- **Prevent finances or related services available:** It may also prohibit persons from making finances or related services available for the benefit of other persons in relation to any activity which is prohibited.

What are Weapons of Mass Destruction (WMD)?

- These are weapons with the capacity to **inflict death and destruction on such a massive scale and so indiscriminately that its very presence in the hands of a hostile power can be considered a grievous threat.**
- Modern weapons of mass destruction are either **nuclear, biological, or chemical weapons— frequently referred to collectively as NBC weapons.**

International

INSTC

Recently, Containers from Russia’s Astrakhan port crossed the Caspian Sea and eventually reach Nhava Shiva port in Mumbai, signalling the launch of the International North-South Transport Corridor (INSTC).

INSTC is a **7,200-km multi-modal transport corridor** that combines road, rail and maritime routes connecting Russia and India via Central Asia and Iran. The corridor is expected to **consolidate the emerging Eurasian Free Trade Area.**

- **Legal Framework:** The legal framework for the INSTC is provided by a **trilateral agreement** signed by India, Iran and Russia at the Euro-Asian Conference on Transport in 2000.

Significance of INSTC:

- **Reduce freight costs by 30% and the journey time by 40%** in comparison with the conventional deep-sea route via the Suez Canal
- **Complement East-West axis:** INSTC can shape a north-south transport corridor that can complement the east-west axis of the China-led Belt and Road Initiative (BRI).
- **Bypass Pakistan to access Afghanistan, Central Asia and beyond**
- **Departure from non-alignment to multi-alignment:** E.g., India's working under QUAD, SCO and INSTC.
- **'Chabahar Day' is observed to promote Chabahar** – Ministry of Port, Shipping and Waterways (MoPSW) in association with India Ports Global observed **'Chabahar Day'** to mark the Chabahar – Link to INSTC – Connecting Central Asian Markets.

India has signed Bilateral Air Service Agreement with 116 countries

- India has signed a **bilateral air service agreement with 116 countries including neighbouring Bangladesh, Afghanistan, and Pakistan along with the US, UK, UAE etc**
- **Airline can operate to/from a point in India:** Any designated foreign airline can operate to/from a point in India if it is designated as a point of call in the bilateral Air Services Agreement (ASA) signed between India and the country which has designated the airline.
- **Free to mount scheduled operations:** Indian designated carriers are free to mount scheduled operations to/from any international airport, including Kannur International Airport, under the ambit of bilateral ASAs concluded by India with foreign countries.
- **Operating passenger services:** Currently, due to a significant imbalance in the number of points of call in favour of foreign carriers, the **Government of India is not granting any non-metro airport as a new point of call to any foreign carrier for the purpose of operating passenger services.**

UN declares access to a clean and healthy environment as a universal human right

At a meeting of the UN General Assembly, India voted in favour of the UNGA resolution for a clean, healthy and sustainable environment as a human right. Previously it was not included in the **Universal Declaration of Human Rights, 1948.**

Status: It is not **legally binding**

UN Human Rights Council has already recognized access to a healthy and sustainable environment as a universal right (2021)

Constitutional Provision in India:

- **Article 21:** Right to life (clean environment, free of disease)
- **Article 48A** (protect the environment and safeguard forests and wildlife)
- **Art 51-A(g)** (Duty to protect and improve the natural environment)

Mosi-oa-Tunya

Recently, Zimbabwe launched gold coins named “Mosi-oa-Tunya” in a bid to control the inflation in country. The Reserve Bank of Zimbabwe announced the launch and distributed 2,000 coins to commercial banks. In July, the annual inflation rate increased to 190%, and thus interest rate of central bank increased by two times to 200%.

Zimbabwe has been experiencing high inflation for a decade now. It has been trying to control it in many other ways. In 2022, the value of Zimbabwe’s dollar decreased against major currencies. As a result, black marketing of US dollars started by citizens in Zimbabwe. Thus, Zimbabwe launched new gold coins to control the black marketing of dollar.

The gold coin is called as “Mosi-oa-Tunya”. It means “The Smoke Which Thunders”. It also refers to Victoria Falls in native Tonga language.

India to host UNSC meet on counterterrorism

- In a first, **India will host diplomats and officials from all 15 countries of the United Nations Security Council, including China, Russia and the United States, for a special meeting on terrorism, in Delhi and Mumbai in October.**
- **The meeting of the Counter-Terrorism Committee (CTC), which India is chairing for 2022 as a member of the UNSC, will focus particularly on challenges such as terrorism financing, cyberthreats and the use of drones, said officials.**

Key Highlights:

- **Cross-border threats from Pakistan and Afghanistan:** India is expected to highlight cross-border threats from **Pakistan and Afghanistan** at the meeting, which will come two months before India completes its **tenure as an elected member of the UNSC (2021-22).**
- **Comprehensive Convention on International Terrorism:** In addition, India has been pushing for the UN members to adopt a **Comprehensive Convention on International Terrorism (first proposed in 1996)**, which is likely to be raised during the meeting.
- **Victim of terrorism:** The event will showcase India’s role as a victim of terrorism as well as a country at the forefront of global counter-terrorism efforts.

- **India as President of UNSC:** They said the CTC meeting in India could also pave the way for a possible visit to New York by the Prime Minister in December, where India will be the President of the UNSC for the entire month.

Science-Tech & Environment

Hellfire R9X missile

- The US military used its **'secret weapon' — the Hellfire R9X missile** ('Ninja missile')— to kill Al Qaeda chief **Ayman al-Zawahiri** on the balcony of a safe house in Kabul.
- Better known in military circles as the AGM-114 R9X, the Hellfire R9X is a US-origin missile known to cause minimum collateral damage while engaging individual targets.
- It weighs about **45 kg** and the missile can also be launched from **helicopters, aircraft and Humvees**. The range of these missiles varies from **500 metres to 11 km**.
- **Hellfire means Heliborne, Laser, Fire and Forget Missile**
- Al-Zawahiri, an Egyptian surgeon who had a \$25 million bounty on his head, had helped coordinate September 11, 2001, attacks that had killed nearly 3,000 people.

Application of the AI in agriculture

- **Efficient and cost-effective resource and yield management** in the agricultural sector.
- **Enable Smart Agriculture:** It refers to **the usage of technologies like the Internet of Things, sensors, location systems, robots and artificial intelligence on your farm**.
 - AI, cloud computing, satellite imagery, and advanced analytics, in combination, can create an ecosystem for smart agriculture.
- **Prediction analysis:** Will ensure the highest possible yields based on the seasonal forecast models.
- **Address supply-demand mismatch in real-time.** For example, a supply-demand engine or predictor that can map supply and demand can reduce this issue significantly.
- **Precision farming** by determining whether pesticides and weedicides should be used by detecting and targeting weeds in the identified buffer zone.
 - This can lead to **higher yields and reduced use of pesticides** and weedicides.
- **Extension services:** AI-based natural language translation facilitates the issuance and spread of Agri-advisories, weather forecasts, and early warnings for droughts in multiple vernacular languages.

Challenges:

- **Lack of proper infrastructure** and know-how, faith in conventional styles of functioning, lack of awareness and scarcity of farmer capital,
- **Fragmentation of land** could also prove to be a hurdle for the large-scale implementation of new technologies.

Military Exercises: AL Najah and Vinbax 2022

India and Oman conduct regular biennial bilateral exercises between all three services:

- **Army exercise: Al Najah**
- Air Force exercise: Eastern Bridge
- Naval Exercise: Naseem Al Bahr

VINBAX (military exercise between armies of **India and Vietnam**): It is designed to enable and train officers from Vietnam in United Nations Peace Keeping Operations.

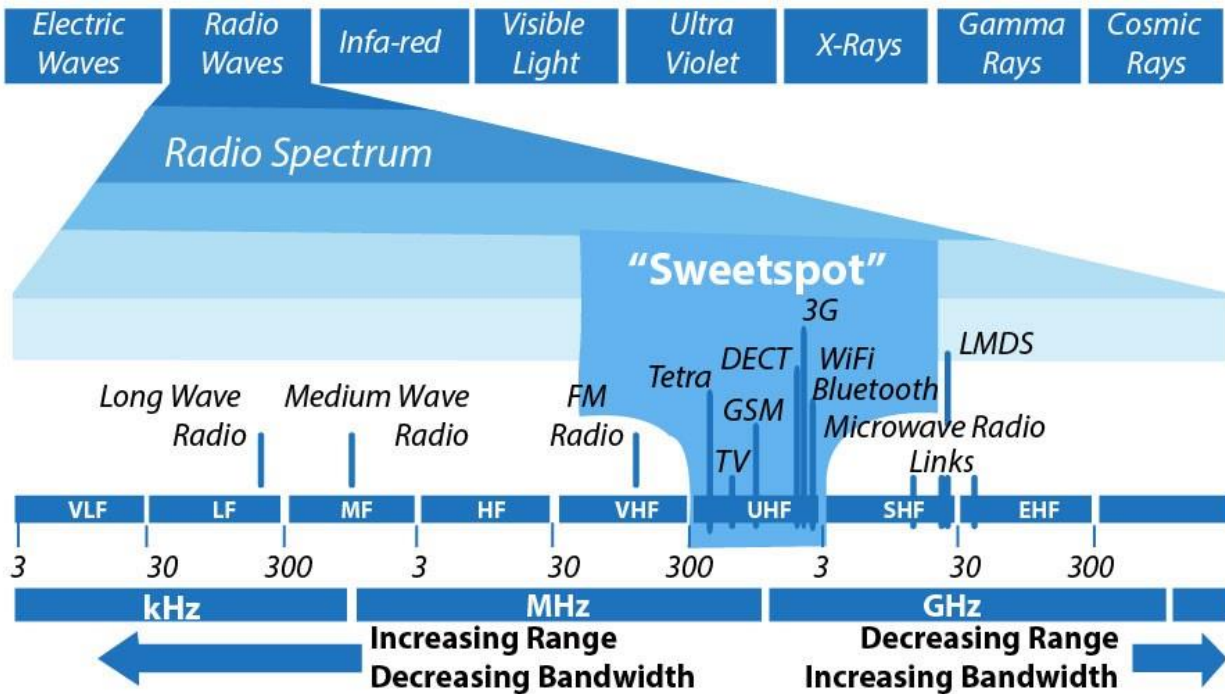
INS Vikrant

- **India's first indigenous aircraft carrier** Vikrant was handed over to the Indian Navy
- **Built by: Cochin Shipyard Lt. (CSL)- a public sector shipyard (Ministry of Shipping)**
- **Naming:** It is named 'Vikrant' as a tribute to India's first aircraft carrier, Vikrant (built by the UK) which played a crucial role in the 1971 war.
- It will join the Russian-made **INS Vikramaditya**

What is a spectrum?

Energy travels in the form of waves known as **electromagnetic waves**. These waves differ from each other in terms of **frequencies**. This whole range of frequencies is called the **spectrum**. In telecommunication like TV, radio and GPRS, radio waves of different wavelengths are used.

Mobile phones use two technologies based on different parts of the radio spectrum— **GSM** (global system for mobile communications) and **CDMA** (code division multiple access). Most of the radio spectrum is reserved in countries for defence. The rest is available for public use. But following an increase in the number of phone users and new services, countries started auctioning the frequencies to telecom companies.



Nagar Van Yojana

Aim: To create 400 Urban Forest and 200 Nagar Vatikas in at least 20 hectares of land in the urban areas in the next five years (2020-2025) (on existing forest land or any other vacant land by Urban local bodies)

About:

- Launched in 2020
- Van will be maintained by State Government
- **Funding:** CAMPA Fund (under Compensatory Afforestation Fund Act 2016)
- Minister of State for Environment, Forest & Climate Change
- **Warje Urban Forest in Pune (Maharashtra)** will be considered a role model for the Scheme.

New Ramsar Sites in India

According to union environment ministry, 6 new wetlands from Tamil Nadu, and 1 each from Karnataka, Goa, Madhya Pradesh and Odisha have received Ramsar recognition as "Wetlands of International Importance". With the inclusion of 10, total number of Ramsar Sites stands at 64.

Newly recognised sites are;

1. **Koonthankulam Bird Sanctuary**– It is a man-made wetland, located in Tirunelveli district of Tamil Nadu. It is the largest reserve for migratory water birds and breeding resident in south India. Paddy is also irrigated in the sanctuary, on 190 acres area.
2. **Nanda Lake**– Nanda Lake is the freshwater marshes, located adjacent to one of rivulets of Zuari river in Goa. It helps the locals to store water in off-monsoon season. Stored water is used to cultivate paddy downstream of this lake. It is home to Black-headed ibis, Wire-tailed swallow, Common kingfisher, Brahminy kite and Bronze-winged jacana.
3. **Satkosia gorge**– It expands along Mahanadi River in Odisha. It was set up in 1976 as a wildlife sanctuary. The Deccan Peninsula and the Eastern Ghats meet at Satkosia. Satkosia gorge wetland is known for marshes and evergreen forests.
4. **Gulf of Mannar Biosphere Reserve (GoMBR)**– It is located in south-eastern coastline and is famous for rich marine environment. The reserve is home to various globally important and highly threatened species like whale shark, Dugong, green sea turtle, seahorses, balanoglossus, dolphins, hawksbill turtle, sacred chanks, etc.
5. Vembannur Wetland Complex, Tamil Nadu
6. Vellode Bird Sanctuary, Tamil Nadu
7. Vedanthangal Bird Sanctuary, Tamil Nadu and
8. Udhayamarthandapuram Bird Sanctuary, Tamil Nadu
9. Ranganathittu Bird Sanctuary, Karnataka and
10. Sirpur Wetland, Madhya Pradesh.

MP to get World's largest floating Solar Power Plant

World's largest floating Solar Power Plant will be constructed in Madhya Pradesh. It is aimed at boosting power generation capacity the state and addressing electricity problems in the central region.

Important Facts to know about the plant:

- The floating solar power plant will be constructed in Khandwa.
- It will generate 600-Megawatt power by 2022-23,
- This project is estimated to be worth Rs. 3000 crores.
- Khandwa district will become the only district in state to house thermal power station, hydel power plant as well as solar power plant.
- Solar power plant will be built on Narmada River, near Omkareshwar Dam.

India's largest floating solar plant:

As of now, Ramagundam Floating Solar PV project in Telangana is the largest project in country. It has the capacity to generate 100 MW of energy.

Cabinet approval of India's updated NDC

The Union Cabinet recently gave approval to India's updated Nationally Determined Contribution (NDC). The updated NDC will be transferred to the United Nations Framework Convention on Climate Change (UNFCCC).

India's Updated NDC:

- It aims to increase India's contributions in strengthening global response towards climate change, in accordance with the Paris Agreement.
- It will help India to escort in low emissions growth pathways.
- It will also protect the interests of India and safeguard its future development needs, in line with the principles and provisions of the UNFCCC.
- Updated NDC translates the 'Panchamrit' into enhanced climate targets. India had announced Panchamrit at COP26.
- This update is also a step towards achieving long term goal of country to reach net-zero by 2070.
- According to updated NDC, India is committed to reduce Emissions Intensity of its GDP by 45% by 2030 as compared to 2005 level.
- It also seeks to attain a cumulative electric power installed capacity of 50% from non-fossil fuel-based energy resources by 2030.

Background:

Last time India had submitted its Intended NDC to UNFCCC on October 2, 2015. It had eight goals, of which 3 goals have quantitative targets up to 2030;

- To take cumulative electric power installed capacity from non-fossil sources to 40%.
- To reduce emissions intensity of GDP by 33-35 %, as compared to 2005 levels.
- To create additional carbon sink of 2.5-3 billion tonnes of CO2 equivalent.

AlphaFold: Prediction of Protein Structures

DeepMind Technologies, an Alphabet-owned AI research company, has developed an artificial intelligence tool called "AlphaFold". This tool predicts and publishes the structures of all proteins, which is the building blocks of life. Thus, this tool unlocks the most influential databases for biological research.

Important facts of the AlphaFold tool include;

- AlphaFold has released the structures of more than 200 million protein structures in association with the European Bioinformatics Institute (EMBL-EBI).
- It comprises of predicted structures for plants, animals, bacteria, and organisms.
- This release opens up several new opportunities for researchers to use AlphaFold, in a bid to promote their work on important issues, like food insecurity, sustainability, and neglected diseases.
- AlphaFold reveals how combination of amino acids come together and “fold” to create a protein structure.
- For example, Sars-Cov-2 has a protein, folding as a spike. This shape is significant for biologists because it helps in designing antibodies and therapeutics.
- The three-dimensional information is usually collected using cryo-electron microscopes.

Economics

India’s ‘wheat waiver’ WTO demand is risk-fraught

Recently, India demanded World Trade Organization (WTO) find a permanent solution to the issue of public stockholding (PSH) of food

Background:

- **India’s MSP policy** for procurement of produce (for supporting farmers’ income as well as providing subsidized food for the poor) had fallen out of WTO rules. Under WTO law, such price support-based procurement from farmers is considered a **trade-distorting subsidy**.
- Currently, India has temporary relief due to a **‘peace clause’** that bars countries from raising legal challenges against these subsidies.
 - **WTO’s peace clause (inserted in Bali Ministerial, 2013)** protects India’s food procurement programmes against action from WTO members in case the subsidy ceilings are breached.

Export of public stock holding food grains:

WTO law also prohibits countries **from exporting foodgrain procured at subsidised prices**. However, the recent food crisis due to Russia-Ukraine War has led to India insisting that it should also be allowed to export food, especially wheat, from the pool of foodgrain procured under the MSP.

Permanent solution for PSH:

India demands a **permanent solution to the PSH policy**. However, no mention of such a solution was made in the recently concluded **Geneva declaration (2022)**

FDI in India

As per the Ministry of Commerce, the total FDI received in 2021-22 was the US \$ 84bn (highest annual inflow)

Other findings

- **Top Source:** Singapore>USA> Mauritius
- **Top Destination state:** Karnataka> Maharastra >Delhi
- **Top sectors receiving FDI:** Computer and IT> Services Sector> Automobile
- **Increase in FDI in Manufacturing (by 76%) to the US \$ 21bn** in comparison to last year

FDI: A foreign direct investment is an investment in the form of a **controlling ownership in a business** in one country by an entity based in another country. It is thus distinguished from a foreign portfolio investment by a notion of direct control.

India International Bullion Exchange (IIBX)

PM launched India's 1st IIBX at International Financial Services Centres (IFSC) at GIFT City (Gujarat)

Bullion is a metal that has been refined to a high standard of elemental purity. The term is ordinarily applied to the bulk metal used in the production of coins and especially to **precious metals such as gold and silver**.

Bullion Exchange: It is a market through which buyers and sellers trade gold and silver as well as associated derivatives. E.g. London Bullion Market is known as the primary global market trading platform for gold and silver.

Background:

- **IIBX was 1st introduced in budget 2020 for easing gold import by Jewellers in India**
- Bullion can sometimes be **considered legal tender** and is often held as reserves by central banks or held by institutional investors.
 - Recently, **Zimbabwe's** central bank has **introduced gold coins ('Mosi-oa-Tunya')** that it hopes will ease citizens' demands for foreign currency.
- **India is the world's 2nd biggest consumer of Gold after China.**

Significance of IIBX:

- Help in standard gold pricing in the country
- It will help dealers and jewellers to trade in precious metals

About GIFT City

It is a multi-service Special Economic Zone (SEZ), which houses **India's first International Financial Services Centre (IFSC)** and an exclusive **Domestic Tariff Area (DTA)**

Farmer Producer Organizations (FPOs)

- The Government of India has launched the **Central Sector Scheme for "Formation and Promotion of 10,000 Farmer Producer Organizations(FPOs)" in the year 2020 with a total budgetary outlay of Rs.6865 Crores** which will leverage economies of scale, reduction of cost of production and enhancing farmers' incomes thus playing a major role towards increasing the income of farmers.
- FPOs are **voluntary organizations controlled by their farmer-members who actively participate in setting their policies and making decisions.**
- They are **open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.**
- FPOs operatives provide education and training for their farmer-members, elected representatives, managers, and employees so that they can contribute effectively to the development of their FPOs.
- FPOs in **Gujarat, Maharashtra and Madhya Pradesh, Rajasthan and some other states** have shown encouraging results and have been able to realize higher returns for their produce.
 - For example, **tribal women in the Pali district of Rajasthan formed a producer company and they are getting higher prices for custard apples.**

Current Affairs Update (Aug 7-14)

National

PESA Rules 2022

- Chhattisgarh has implemented Panchayats (extension to the scheduled area) or PESA Rules 2022.
- **Chhattisgarh's** PESA Rules mandate that **50%** of the members of the Gram Sabha are from Tribal communities (of which **25%** will be female members). For PESA Act to be effective, it is important that Rules be framed by the states.
- **Status:** Out of **10 states** (Andhra, Telangana, Chhattisgarh, Gujarat, HP, Jharkhand, MP, Maharashtra, Odisha, and Rajasthan) who have notified 5th Schedule Areas, **only 7 states** (including Chhattisgarh and Gujarat) have notified Rules to implement the PESA Act.
- **States coming in the 6th Scheduled are:** Assam, Meghalaya, Tripura, and Mizoram (remember as 'AMTM')

What is PESA Act 1996?

- It extends the **provisions of Panchayats (Part IX of the constitution) to the Fifth Schedule Areas**. These areas have a huge tribal population.
- It ensures **self-governance through Gram Sabhas** (village assemblies) for people living in the Scheduled Areas.

World Tribal Day 2022

9th August is celebrated as the International Day of the World's Indigenous Peoples.

Aim: To highlight the role of indigenous people and the importance of preserving their rights, communities and knowledge they gathered and passed down over centuries.

Theme: "The Role of Indigenous Women in the Preservation and Transmission of Traditional Knowledge."

History: In 1994, the UNGA, passed a resolution, declaring August 9 as the International Day of the World's Indigenous People as it was on 9th August that the **UN Working Group on Indigenous Populations** held its first meeting.

Issues concerning Tribals (health-related)

- **As per 'The Lancet: 'Indigenous and Tribal Peoples' Health' (2016):** India has the second highest infant mortality rate for the tribal people, next only to Pakistan.

- Child malnutrition is **50% higher in tribal children**: 42% compared to 28% in others
- **Nearly five and a half crores** live outside the Scheduled Areas, as a scattered and marginalized minority. They are the most powerless.
- **Malaria and tuberculosis** are three to 11 times more common among the tribal people.
- **Poor health Infrastructure**: There is a **27% to 40% deficit** in the number of **Primary health facilities**, and a **33% to 84%** deficit in medical doctors in tribal areas.
- **Low participation**: Seventh, there is hardly any participation of the tribal people – locally or at the State or national level – in designing, planning or delivering health care to them.

Classification of Monsoon rainfall

Based on Long Period Average (LPA), IMD categorizes yearly monsoon rainfall on an all-India basis in below five categories-

- **Normal or Near Normal**: percentage departure of actual rainfall is +/-10% of LPA (rainfall between 96-104% of LPA).
- **Below Normal**:When the departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA.
- **Above Normal**:When actual rainfall is 104-110% of LPA.
- **Deficient**: When the departure of actual rainfall is less than 90% of LPA.
- **Excess**: When the departure of actual rainfall is more than 110% of LPA

Bihar Astronomical Observatory in UNESCO list

106-year-old astronomical observatory at the Langat Singh College, Muzaffarpur in Bihar has been added to UNESCO World heritage observatories list. This observatory is first of its kind in eastern part of India.

About the Astronomical Observatory:

- The Astronomical Observatory in Muzaffarpur was established in 1916 give detailed astronomical knowledge to students. Prof Romesh Chandra Sen took initiative to set up the astronomical observatory at the college. In 1914, he talked to an astronomer J Mitchell for guidance.
- In 1915, telescope, chronograph, astronomical clock, and other equipment were procured from England.

- Finally in 1916, astronomical observatory was started. In 1946, a planetarium was also established in the college.

However, the condition of planetarium as well as astronomical observatory started deteriorating after 1970. Most of the installed machines have either been lost or become junk.

UNESCO World Heritage Sites and observatories in India:

Sites of cultural and natural importance worldwide are recognised under the UNESCO World Heritage Convention. This convention was established in 1972. In India, there are 40 World Heritage Sites, making it the country with 6th largest number of World Heritage Sites. It includes 32 cultural sites, 7 natural sites and 1 mixed site. The Jantar Mantar in Jaipur is also included among UNESCO World Heritage site. Jantar Mantar is a collection of 19 astronomical instruments, constructed by king Sawai Jai Singh II. It also features the largest stone sundial of the world.

First Woman Chief of CSIR

Nallathambiy Kalaiselvi has been appointed as the “first woman director general of CSIR (Council of Scientific and Industrial Research). She is the senior electrochemical scientist and has been appointed for two years.

CSIR was set up as an autonomous body in September 1942. Since then, it has emerged as the largest research and development organisation in country. It is funded by Ministry of Science and Technology.

Ladakh dPal rNgam Duston Award

- Highest civilian honour of Ladakh “dPal rNgam Duston” was recently conferred to Tibetan spiritual leader Dalai Lama. He was honoured for his contribution towards humanity.
- It was the 6th dPal rNgam Duston Award.
- Award was conferred to Dalai Lama by Ladakh Autonomous Hill Development Council (LAHDC), Leh.
- dPal rNgam Duston was celebrated to mark the foundation day of LAHDC at Sindhu Ghat.

International

ASEAN-India Foreign Ministers’ Meeting (AIFMM)

30 years of India-ASEAN relations and 2022 has been designated as **ASEAN-India friendship year**.

Areas of Cooperation:

- **Trade:** Over **10% of India’s overall trade** with ASEAN countries (India’s **4th largest** trading partner)

- **Forums:** India is a member of the ASEAN Regional Forum (ARF), Mekong Ganga Cooperation.
- **Transport:** India-Myanmar-Thailand Trilateral Highways, Kaladan Multi-modal Project.
- **Security:** India's 'Act East Policy' and 'Indo-Pacific Oceans Initiative (IPOI)'
- **Military exercise:** CORPAT (with Indonesia and Thailand); Samudra Shakti (Indonesia); SIMBEX (Singapore)
- **Socio-Cultural Cooperation:** Inviting ASEAN students to India, Special Training Course for ASEAN diplomats, Exchange of Parliamentarians, etc.
- **East Asia Summit (EAS):** First held in 2005, the summit is usually attended by the heads of state from ASEAN, Australia, China, India, Japan, New Zealand, Russia, South Korea, and the United States.

Porcupine strategy

Taiwan is planning to use this strategy to **fight back in case China attempts to occupy it by force**

The “**porcupine doctrine**”, which was proposed in 2008 by US Naval War College research professor William S Murray, is a strategy of asymmetric warfare focused on fortifying a weak state's defences to exploit the enemy's weaknesses rather than taking on its strengths.

It is about building defences that would ensure that Taiwan “could be attacked and damaged but not defeated, at least without unacceptably high costs and risks”.

Background of the issue:

Taiwan, a tiny island off the east coast of China, is where Chinese republicans of the **Kuomintang government** retreated after the **1949 victory** of the communists — and it has since continued as the Republic of China (RoC).

People's Republic of China (PRC or China) maintains that “**there is only one China in the world**” and “**Taiwan is an inalienable part of China**”.

However, self-ruled Taiwan sees itself as no less than an independent nation, and its leaders have vowed to defend its sovereignty against the Chinese goal of “reunification”. Currently, Taiwan is entirely dependent on the US for its defence against possible Chinese aggression.

Techno-Nationalism

Report “Internet in India” by the Internet and Mobile Association of India (IAMAI) has recently highlighted this word.

Definition: Techno-nationalism is a way of understanding how technology affects the society and culture of a nation.

Aim: It is aimed at the use of technology to advance nationalist agendas, with the goal of promoting connectedness and a stronger national identity.

Examples:

- **Use of Social media in election campaign:** The 2014 elections were the first time internet streaming played a significant role in disintermediating broadcast media. The 2019 elections were marked by the extensive role played by social media platforms such as Facebook and WhatsApp.
- **Indonesia** is not just controlling online gaming apps and services but also actively promoting indigenously developed gaming apps.
- **From Kenya to Brazil** the countries are witnessing preemptive actions to insulate the electoral processes of their respective democracies from the spread of viral fake news and disinformation on WhatsApp.
- **China:** created digital surveillance; restricted online gaming for children.

Science-Tech & Environment

SSLV

The **SSLV (Small Satellite Launch Vehicle)** is the smallest vehicle (110tn) aimed at launching small satellites into Earth's low orbits.

It is a **three-stage all-solid vehicle** with the capacity to launch a 500kg satellite into a 500 km Low earth orbit and 300kg into a Sun-synchronous Orbit.

Benefits: Low cost, with low turn-around time, flexibility in accommodating multiple satellites, launch on-demand feasibility, minimal launch infrastructure requirements, etc.

NSIL: ISRO commercial arm, New Space India Limited (NSIL) will mass-produce and manufacture the SSLV and the more powerful PSLV in partnership with the private sector in India through technology transfers.

Small modular reactors (SMRs)

Small modular reactors are advanced nuclear reactors, with the power capacity of 300 MW(e) per unit. This equals to 1/3rd of generating capacity of traditional nuclear power reactors. The nuclear plant is

likely to be built in a period of 5 years, under fleet mode. An important aspect of the advanced nuclear reactor is that, it is factory fabricated. It can be operated by any agency. Thus, it would attract larger participation of private sector.

Recently, member of NITI Aayog V K Saraswat suggested the government to focus on setting up small modular reactors (SMRs). This move will help in meeting India's energy needs and replace the thermal power plants.

Operation 'Skylight'

Indian Army tested the operational readiness of its satellite-based systems under this operation.

Definition: 'Satellite-based Systems' provide communication facilities to military's ground and air-based systems. It also acts as a backup in case terrestrial connectivity is disrupted.

Why the need: Currently, Army doesn't have a dedicated satellite system (unlike Air-force and Navy). **GSAT-7B satellite** will be launched for use by Army. **GSAT-7 series** of the satellite is meant for defence services.

JYNNEOS

Danish biotech company, Bavarian Nordic, has developed a smallpox vaccine, called JYNNEOS, that has been tested for safety in people and effectiveness against monkeypox in the laboratory, and has been approved by the United States Food and Drug Administration.

Indian Virtual Herbarium

- It is the **biggest database of the country's flora.**
- Developed by **scientists of the Botanical Survey of India (BSI)**, the Indian Virtual Herbarium was inaugurated by the Union Minister of Environment Forest and Climate Change.
- Each record in the digital herbarium includes an **image of the preserved plant specimen, scientific name, collection locality, collection date, collector name, and barcode number.** The digital herbarium also includes features to extract the data State-wise and users can search plants of their own States which will help them to identify regional plants and in building regional checklists.

Challenges in Solar PV manufacturing in India

- **Dependency on Imports:** India's current solar module manufacturing capacity is limited to **15 GW per year.** India has **no manufacturing capacity for solar wafers and polysilicon ingots,** and currently imports 100% of silicon wafers and around 80% of solar cells.
- **Older technology:** Indian manufacturers are still dependent on older **Al-BSF technology (Aluminum Back Surface Field Solar Cells)** (low efficiencies of **18-19%**), whereas worldwide PV cell efficiency is greater **than 21%.**

- **India is more of an assembly hub than a manufacturing one:** Several raw materials such as silicon wafers, metallic pastes of silver and aluminium to form the electrical contacts too, are almost 100% imported. India is dependent on **China** for the **Silicon wafers** (the most expensive raw material). More than 90% of the world's solar wafer manufacturing currently happens in China.
- **Poor investment in research:** India has hardly invested in creating centres for the try and test solar technologies in a cost-effective manner. E.g., **IMEC Belgium or the Holst Centre in the Netherlands**.
- **Challenges at the WTO:** India lost the case in WTO (challenged by US PV manufacturers) over India's import duty.

India: Target to eliminate Kala-azar by 2023

Union Government of India has set the target to eliminate Kala-azar from country by 2023. According to Dr Bharati Pravin Pawar (Minister of State for Health and Family Welfare), out of 633 Kala-azar endemic blocks, 625 blocks have successfully eliminated the kala-azar in 2021. India's target is way ahead than World Health Organisation (WHO)'s target of eliminating the disease by 2030.

Kala Azar is also called as Leishmaniasis. It is a neglected tropical disease, by which over 100 countries are affected, including India. Neglected tropical diseases are a group of multiple communicable diseases that are prevalent in tropical and subtropical conditions of 149 countries. The disease is caused due to parasite called Leishmania. This parasite is transmitted via bite of sand flies.

Three Types of Kala Azar:

1. **Visceral leishmaniasis:** It affects multiple organs and is considered as the most serious form of the disease. It is commonly called as Kala Azar in India.
2. **Cutaneous leishmaniasis:** It is the most common type, affecting skin. It results into skin sores.
3. **Mucocutaneous leishmaniasis:** It causes skin and mucosal lesions.

Treatment of Kala Azar:

Only drug that is used to treat kala azar is miltefosine. However, this drug is losing its effectiveness rapidly, because of parasite's resistance to this drug.

Lumpy skin disease (LSD)

- It is an infectious disease in **cattle caused by a virus of the family Poxviridae, also known as the Neethling virus**.

- The disease is characterized by **fever, enlarged superficial lymph nodes and multiple nodules (measuring 2–5 centimetres (1–2 in) in diameter) on the skin and mucous membranes (including those of the respiratory and gastrointestinal tracts).**
- Infected cattle also may **develop edematous swelling in their limbs and exhibit lameness.**
- The virus has important economic implications since affected animals tend to have **permanent damage to their skin, lowering the commercial value of their hide.**
- Additionally, the disease **often results in chronic debility, reduced milk production, poor growth, infertility, abortion, and sometimes death.**

Vasculitis

Actor **Ashton Kutcher** had a “weird, super rare form of vasculitis” two years ago that “knocked out” his vision, hearing, and “equilibrium”. He mentioned about it in a recent tweet.

Vasculitis is simply an **inflammation of blood vessels.**

Inflammation is the natural response of the body’s immune system to any injury or infection, which in normal course can help the body fight invading germs. However, in vasculitis, the body’s immune system turns on healthy blood vessels, causing them to swell up and narrow down.

Novel Langya Henipavirus

- Cases of a **novel Langya henipavirus (LayV)** have been reported in **Shandong and Henan provinces of China.**
- The newly discovered virus is a “**phylogenetically distinct Henipavirus**”, according to a recent study — A Zoonotic Henipavirus in Febrile Patients in China — published in The New England Journal of Medicine.
- Nipah and Hendra virus also belong to the same genus, henipavirus, from the Paramyxoviridae family. Paramyxoviridae is a family of single-stranded Ribonucleic acid (RNA) viruses that cause different types of viral infections.
- These viruses are **found in bats, rodents and shrews and are known to infect humans and potentially cause fatal diseases.**
- There is **currently no vaccination or therapy for the Langya virus**, hence the primary option is supportive care to treat zoonotic disease complications.

Ex Vajra Prahar 2022

- A joint exercise between the special forces (**13th edition**) of **India and the US** began in Himachal Pradesh’s Bakloh.
- **Aim:** The drill aims to improve interoperability between the special forces of both the countries
- **Other Exercises of India with the USA:** Exercise Yudh Abhyas (Army); Cope India (Air Force); Red Flag (USA’s multilateral air exercise); Malabar Exercise (trilateral naval exercise of India, USA and Japan).

Economics

Blue Bonds

- SEBI has proposed the '**blue bonds**' for sustainable finance
- It will be a **debt instrument** to support investments in healthy oceans and blue economies (i.e. use of ocean resources for economic growth)- sustainable exploitation of ocean resources, fishing, and extracting renewable energy.
- It will catalyse progress towards **SDG 14 (Life Below Water)**
- UN Decade of Ocean Science for sustainable development (2021-2030)
- **First Blue Bond:** the Republic of Seychelles, in 2018, was the first to come with a sovereign blue bond.
- **Other similar types of bonds:** Green Bond (used to fund projects that have positive environmental and/or climate benefits)

Pradhan Mantri Fasal Bima Yojana (PMFBY)

- Launched in **2016** and is being administered by the **Ministry of Agriculture and Farmers Welfare**.
- Replaced the **National Agricultural Insurance Scheme (NAIS)** and **Modified National Agricultural Insurance Scheme (MNAIS)**.
- **Aim:** To provide a comprehensive insurance cover against the failure of the crop thus helping in stabilizing the income of the farmers.
- **Scope:** All food & oilseed crops and annual commercial/horticultural crops for which past yield data is available.
- **Premium:** The prescribed premium is **2% to be paid by farmers for all Kharif crops and 1.5% for all rabi crops. In the case of annual commercial and horticultural crops, the premium is 5%.**

Sports GK

CWG 2022: India finishes at 4th Place

The Commonwealth Games 2022 were held from July 28 to August 8, 2022, in which India has been ranked at 4th place, in terms of medals. India bagged a total of 61 medals, comprising of 22 Gold, 16 Silver, and 23 Bronze. This was India's 4th best performance at the CWG with respect to winning gold medals.

Important facts related to India at CWG 2022 include;

- India's best-ever performance at the Commonwealth Games was in 2010, when it bagged 101 medals, including 38 Gold.
- With respect to overall medals, Birmingham 2022 is 5th best performance, following;
- 101 medals at CWG 2010 in New Delhi
- 69 medals at CWG 2002 in Manchester 2002
- 66 medals at CWG 2018 in Gold Coast
- 64 medals at CWG 2014 in Glasgow.
- At CWG 2022 in Birmingham, India has been placed behind Australia with 178 medals, England with 176 and Canada with 92 medals.
- Tennis star Sharath Kamal turned out to be the most successful Indian athlete, with 4 medals comprising of 3 Gold.
- Wrestlers added most to India's medal tally. All the 12 Wrestlers have won medals.
- Weightlifters bagged a total of 10 medals, including 3 Gold medals.
- In Table Tennis, India secured 7 medals, including 4 Gold.

Chess Olympiad 2022

Koneru Humpy, Harika Dronavalli, Tania Sachdev, R Vaishali and Bhakti Kulkarni – a delightful mix of long-serving mould-breakers and young prodigies – were the top players in the women's section. **Harika Dronavalli played Chess Olympiad Medal While Being 9 Months Pregnant.**

They still made history – **as the first-ever Indian women's team to win a medal at an Olympiad.**

State GK

Haryana 2G Ethanol Plant

The 2nd-Generation Ethanol Plant is set to be commissioned on August 10, 2022 in Haryana on the occasion of World Biofuel Day. This plant is aimed at tackling the problem of stubble burning in Haryana and adjoining region. Second-Generation (2G) Ethanol Plant has been set up by Indian Oil Corporation Limited (IOCL) in the Panipat Refinery and Petrochemical Complex (PRPC).

Significance of the plant includes;

Vivek Career Academy SCO 385, Sector 8, Panchkula

- 2G ethanol bio-refinery will use paddy straw (parali) as a feedstock.
- It will produce 100 kilolitre ethanol per day, after processing 750 tonne paddy straw in a day.
- Production of 2G ethanol on commercial basis will start within 90 days.
- This plant would provide employment to around 250 people directly. It will also employ 1000 people indirectly.
- Plant will benefit the farmers of Panipat, Karnal, Sonapat, Jind, Kurukshetra, Ambala and Yamunanagar.

Current Affairs Update (Aug 15-21)

National

India's 'Panch Pran' target for the next 25 years

The Five Resolves that PM asked people to take include;

- Move forward with bigger resolves and resolve of a developed India
- Erase all traces of servitude
- Be proud of India's legacy
- Strength of unity
- Duties of citizens including PM and CMs.

According to PM, these five resolves will be significant for a developed country when country will mark 100 years of independence in 2047. These five resolves also include the PM's dream of 'Vishwaguru India'.

Outcomes out of National Rural Health Mission (NRHM)

- **Institutional deliveries** improved from 41% in 2005 to 89% in 2021,
- **The maternal mortality ratio (MMR)** went down from 407 per one lakh women in 2,000 to 113 per one lakh women in 2021,
- **The infant mortality ratio** reduced from 58/1,000 live births in 2005 to about 28/1,000 live births in 2021
- **The healthcare system's footfall** has registered an impressive improvement in states like Bihar and UP.

Limitations: The primary healthcare system continues to be plagued with gaps and deficiencies, overcrowding, poor facilities, low budget (barely 1.1% of GDP)

Navroz festival (Parsi New Year)

- Navroz is celebrated at the time of the **vernal equinox** (marking the start of spring) in the Northern Hemisphere. It is being celebrated in India on **16th August** in India.
- 'Nav' = new and 'Roz' = day, meaning 'new day' (in the Persian language)

- It is celebrated in **March globally (as per the Iranian calendar)**, Navroz arrives **200 days later in India** and is celebrated in the month of **August** as the Parsis here follow the **Shahenshahi calendar** which **doesn't account for leap years**.
- The **Persian king Jamshed** is credited with having created the Shahenshahi calendar.
- Navroz is on the list of **UNESCO Intangible Cultural Heritage** of Humanity of India.

DigiYatra

The 'DigiYatra' is a **Biometric Enabled Seamless Travel experience (BEST) based on Facial Recognition Technology**. It aims to provide a paperless and seamless travel experience to the passengers.

"DigiYatra is a unique initiative of the Government of India, coordinated by the Ministry of Civil Aviation.

DigiYatra envisages **that travellers pass through various checkpoints** at the airport through paperless and contactless processing, **using facial features to establish their identity**, which would be linked to the boarding pass.

The **DigiYatra Foundation** will be the custodian of the passenger ID validation process. It will also define the criteria for compliance and guidelines for the local airport systems.

UDAN scheme

The Ministry of Civil Aviation's **flagship program Regional Connectivity Scheme UDAN (UdeDeshkaAamNagrik)** has completed **5 years of success** (launched in 2016) since the launch of its first flight by the Prime Minister on 27th April 2017.

Aim: It seeks to **improve regional air connectivity to tier-2 and tier-3 cities** (mostly underserved or unserved regions) through the revival of unused and underused airports.

Benefits for citizens: Under the scheme, **nearly half of the seats in Udan flights are offered at subsidized fares**, and the participating carriers are provided with a certain amount of viability gap funding (VGF).

Phases:

- **UDAN 1.0** (5 airlines),
- **UDAN 2.0** (helipads connected),
- **UDAN 3.0** (inclusion of tourism, seaplane route),
- **UDAN 4.0** (further expansion to 78 new routes),
- **UDAN 4.1** (Sagarmala Seaplane service),
- **KRISHI UDAN** (transporting agri-products),
- **International UDAN** (smaller cities to international destination)

International

Iran Nuclear Deal or Joint Comprehensive Plan of Action (JCPOA)

- The JCPOA was the result of **prolonged negotiations between 2013 and 2015** between Iran and P5+1 (China, France, Russia, the United Kingdom, the United States + Germany).
- Under the deal, Iran agreed to **significantly cut its stores of centrifuges**, enriched uranium and heavy water, all key components for nuclear weapons.
- Iran also agreed to implement a protocol that would **allow inspectors from the International Atomic Energy Agency (IAEA) to access its nuclear sites** to ensure Iran would not be able to develop nuclear weapons in secret.
- While the West agreed to lift sanctions related to Iran's nuclear proliferation, other **sanctions addressing alleged abuses of human rights and Iran's ballistic missile programme remained in place.**
- The US committed to **lifting sanctions on oil exports** but continued to restrict financial transactions, which have deterred international trade with Iran.

Why in news? A European Union proposal to revive the 2015 Iran nuclear deal “can be acceptable if it provides assurances on Tehran’s key demands. The EU said that it had put forward a “**final**” text following four days of indirect talks between U.S. and Iranian officials in Vienna.

The conflict over Nagorno-Karabakh

- **The Nagorno-Karabakh conflict** is an **ethnic and territorial** conflict between Armenia and Azerbaijan over the disputed region of Nagorno-Karabakh, inhabited mostly by ethnic Armenians, but **located within the boundaries of Azerbaijan.**
- **Years of clashes** followed between Azerbaijan forces and Armenian separatists ended in **1994 when Russia brokered a ceasefire**, by which time ethnic Armenians had taken control of the region.
- While the area remains in Azerbaijan, it is today governed by **separatist Armenians** who have declared it a republic called the “**Nagorno-Karabakh Autonomous Oblast**”

Salman Rushdie

Salman Rushdie was stabbed many times while speaking at the Chautauqua Institution in western New York. This incident highlights the issue of **freedom of speech and how authors are targeted for representing their views to the world.**

The author's book "The Satanic Verses" which was released in 1988 was called blasphemous and the then Supreme Leader of Iran Ayatollah Khomeini had issued a **fatwa** against Salman Rushdie.

Science-Tech & Environment

75 Ramsar Sites in 75th Year of Independence

Eleven Ramsar Sites added are:

Tampara Lake (Odisha):

- Tampara Lake is among the **most prominent freshwater lakes** in the State of Odisha. It is called 'Tampara' as the depression on the ground gradually filled with rainwater from catchment flow and was called "Tamp" by the British and subsequently termed "Tampra" by the locals.
- The wetland is an important habitat for vulnerable species such as **Cyprinus carpio, common pochard (Aythya ferina), and river tern (Sterna aurantia)**.

Hirakud Reservoir (Odisha)

- Hirakud Reservoir, the **largest earthen dam in Odisha** started operating in 1957. The reservoir is important for livelihoods of fishermen, tourism, irrigation and production of hydro-energy.
- The wetland also provides important **hydrological services by moderating floods** in the Mahanadi delta, the ecological and socio-economic hub of the east coast of India.

Ansupa Lake (Odisha, Cuttack district)

- Ansupa Lake is the **largest freshwater lake in Odisha** situated in the Cuttack district.
- The wetland is an **oxbow lake formed by River Mahanadi**.
- **The wetland provides a safe habitat to:-**
 - **Three threatened bird species**– Rynchops albicollis (EN), Sterna acuticauda (EN) and Sterna aurantia (VU)
 - **Three threatened fish species**– Clarias magur (Clariidae) (EN), Cyprinus carpio (Cyprinidae) (VU) and Wallago attu (VU).
- The wetland has **immense recreational and tourism potential** as it is a major wintering ground for migratory birds and is also known for its scenic beauty.

Yashwant Sagar (Indore, Madhya Pradesh)

- It is one of the **two Important Bird Areas (IBA)** in the Indore region as well as one of the most important birding sites in the **Malwa region** of Madhya Pradesh.
- Presently it is mainly used for **water supply to the city of Indore** and is also being used for fish culture on a commercial scale.
- Yashwant Sagar is considered to be a **stronghold of the vulnerable Sarus Crane** in central India. Due to its **vast shallow reed beds**, the wetland is considered heaven to a **large number of winter migratory birds**.

Chitrangudi Bird Sanctuary (Ramanathapuram, Tamil Nadu)

- The wetland is a **protected area since 1989** and declared a Bird Sanctuary.

Suchindram Theroor Wetland Complex (Kanya Kumari, Tamil Nadu)

- It is part of the **Suchindrum-Theroor Manakudi Conservation Reserve**.
- It is declared an **Important Bird Area** and lies at the **southern tip of the Central Asian flyway** of migratory birds.
- This is a **man-made, inland Tank** and is perennial.
- **Copper plate inscriptions** from the **9th century** mention Pasumkulam, Venchikulam, Nedumarthukulam, Perumkulam, Elemchikulam and Konadunkulam.

Vaduvur Bird Sanctuary (Tamil Nadu)

- It is a large **human-made irrigation tank** and shelter for migratory birds as it provides a suitable environment for food, shelter, and breeding ground.
- Thus, the site **provides support to species such as Indian Pond Heron Ardeola grayii** during critical stages of their life cycle.

Kanjirankulam Bird Sanctuary (Ramanathapuram, Tamil Nadu)

- It is notable as a nesting site for several **migratory heron species** that roost in the prominent growth of **babul trees there**.
- The site qualifies as an **IBA** as the threatened **Spot-billed Pelican Pelecanus philippensis** breeds here.
- The wetland supports **IUCN RedList vulnerable avian species like Sterna aurantia (River Tern)**.

Thane Creek (Maharashtra)

- **Ulhas River** is the largest source of water for the creek, followed by many drainage channels from various suburban areas of Mumbai, Navi Mumbai & Thane.
- **Creek** is a narrow, sheltered waterway, especially an inlet in a shoreline or channel in a marsh.
- It has been declared as **Thane Creek Flamingo Sanctuary**.
- Thane creek is fringed by mangroves on both banks & comprises around **20% of the total Indian mangrove species**.
- The area is an important part of the **wetland complex of the Central Asian Flyway** of the birds and has been categorized as an **Important Bird Area (IBA)**.

Hygam Wetland Conservation Reserve (Baramulla district, J&K)

- Hygam Wetland falls within the **River Jhelum** basin and plays a significant role as a flood absorption basin, biodiversity conservation site, eco-tourism site, and livelihood security for the local communities.
- It is also recognized as an **Important Bird Area (IBA)**.
- Consequent to the **high rate of siltation**, Hygam Wetland has lost its wetland characteristics to a large extent and in many places changed its profile into a landmass.

Shallbugh Wetland Conservation Reserve (Sri Nagar, J&K)

- The area has extensive **reedbeds of Phragmites communis and Typha angustata**, and rich growth of **Nymphaea candida and N. stellata** on open water. It serves as an abode to more than four lakh resident and migratory birds of at least 21 species.
- Shallabugh Wetland plays a major role in the **natural control, amelioration or prevention of flooding**, It is also important for **seasonal water retention** for wetlands or other areas of conservation importance downstream.

Euthanasia

The term “euthanasia” is derived from Greek, literally meaning “**good death**”. Taken in its common usage, however, euthanasia refers to the **termination of a person’s life, to end their suffering, usually from an incurable or terminal condition**. It is for this reason that euthanasia was also coined the name “**mercy killing**”.

Types of Euthanasia:

- **Voluntary euthanasia** refers to euthanasia performed at the request of the patient.

- **Involuntary euthanasia** is the term used to describe the situation where euthanasia is performed when the patient does not request it, with the intent of relieving their suffering – which, in effect, amounts to murder.
- **Non-voluntary euthanasia** relates to a situation where euthanasia is performed when the patient is incapable of consenting.

World Elephant Day

World Elephant Day is celebrated on August 12 to raise awareness about the plight of elephants.

- **History:** World Elephant Day was co-founded by **Patricia Sims**, a Canadian film-maker, with the Elephant Reintroduction Foundation of Thailand, an initiative of HM Queen Sirikit in 2012.
- **Numbers:** As per the 2017 count there are nearly **30000 elephants** in India (an increase from the 2012 count)
- **Nature:** The animals are highly intelligent creatures, similar to apes and dolphins, and are capable of showing emotions such as empathy, grief, and compassion.
- **Among Asian elephants**, the Indian elephant is the most widespread, Sri Lankan is the largest and Sumatran is the smallest.
- **Concerns:** Escalation of poaching, Habitat loss, Human-elephant conflict (1,578 people died of elephant attacks in India between 2019-20 and 2021-22), Mistreatment in captivity.

Agasthyamalai Elephant Reserve

The central government has notified Agasthyamalai Elephant Reserve (Kanyakumari and Tirunelveli, TN) as **India's 31 elephant reserve**. This will be the **5th elephant reserve** in the state.

About Agasthyamalai Biosphere Reserve (ABR)

- ABR is situated at the southern-most end of the **Western Ghats** and spread over two southern states Kerala and Tamil Nadu.
- It is named after the **Agastya Mala peak** that rises up to almost 1868 metres above sea level, in Thiruvananthapuram, Kerala.
- In March 2016, it was included in the **World Network of Biosphere Reserves of UNESCO**.
- It covers **Peppara and Shendurney wildlife sanctuaries** and parts of the **Neyyar sanctuary in Kerala** and the **Kalakad Mundanthurai Tiger Reserve** of Tamil Nadu.
- It is home to the **Kanikaran tribe**, one of the oldest surviving ancient tribes in the world.

What is nano urea?

Urea is **chemical nitrogen fertilizer**, white in colour, which **artificially provides nitrogen, a major nutrient required by plants**.

- Liquid nano urea is essentially **urea in the form of a nanoparticle**.
- It is a **patented** chemical nitrogen fertilizer produced by IFFCO.

Nano urea vs imported/urea – Which is better?

- **Cost:** Nano urea is cheaper (Rs 240 for half litre without subsidy; the International market price of a bag of urea is between Rs 3,500 and Rs 4,000. A bottle of nano urea can effectively replace at least one bag of urea.
- **Benefits for the government:** Reduces fertilizer subsidy bill of government. India is dependent on imports of the widely used fertilizer.
- **The efficiency of Nano urea (nutritional use efficiency)** can be as high as 85-90 per cent (Conventional urea has an efficiency of about 25 per cent).
 - As Nano urea has **higher surface-mass ratios** that help in releasing nutrients to plants in a controlled manner.
- **Nano urea has a shelf life of a year**, and farmers need not be worried about **“caking”** when it comes in contact with moisture.

Other benefits of Nano urea:

- **Fertilizers in nano form provide a targeted supply of nutrients to crops**, as they are absorbed by the stomata, and pores found on the epidermis of leaves.
- Reduces **the unbalanced and indiscriminate use of conventional urea**.
- Increases **crop productivity by 8%**
- Reduces **soil, water, and air pollution**.

Udarshakti

It is a bilateral air exercise between India and Malaysia at Kuantan (Malaysia)

F-INSAS system

F-INSAS stands for **Future Infantry Soldier As A System**, a programme for infantry modernisation aimed at increasing the operational capability of the soldier. As part of the project, soldiers are being equipped with modern systems that are lightweight, all-weather-all-terrain, cost-effective and low maintenance.

Nipun mines

Nipun mines are **indigenously designed and developed anti-personnel mines**, termed by the DRDO as **'soft target blast munition'**. These mines are meant to act as the first line of defence against infiltrators and enemy infantry. They have been developed with the efforts of the Armament Research and Development Establishment.

ROSHINI

- The Union Minister unveiled the first-of-its-kind lantern named **'Roshni'** during a visit to SAGAR ANVESHKA, a Coastal Research Vessel, operated and used by the National Institute of Ocean Technology (NIOT)
- It is **India's 1st saline water LED lantern**. It uses salty sea water as an electrolyte to power LED lamps
- **Developed by:** National Institute of Ocean Technology (NIOT), Chennai

CAG report on conservation of coastal ecosystem

Comptroller and Auditor General (CAG) of India tabled a report in Parliament on whether steps taken by the Union Environment Ministry to conserve India's coastal ecosystems have been successful.

Findings of 'performance audits' of Conservation of Coastal Ecosystems from 2015-20:

- **National Coastal Zone Management Authorities (NCZMA) is still functioning as an ad-hoc body:** Thus, impacting consistency in coastal conservation
- **Delay or non-existent State/UT Coastal Zone Management Authorities (SCZMA):**
 - g., **Karnataka** has still not constituted it while **Goa, West Bengal and Odisha** have delayed its reconstitution. In **Andhra Pradesh**, District Level Committees were not even established
- **Several projects approved despite the EIA report highlighted inconsistency:** Incidences of illegal construction activities (reducing coastal space) and effluent discharges from local bodies, industries and aquaculture farms
 - **Other issues in EIA:** non-accredited consultants preparing the EIA, using outdated data, and not evaluating the environmental impacts of the project
- **Expert Appraisal Committees** not being present during project deliberations.
 - **Members of the EAC** were fewer than half of the total strength during the deliberations.
- **State-level issues:**

- States haven't yet prepared **Integrated Management Plan** for Critically Vulnerable Coastal Areas.
- **Tamil Nadu** didn't have a strategy in place to conserve **the Gulf of Mannar Islands**.
- **Goa**: there was no system for **monitoring coral reefs** and no management plans to **conserve turtle nesting sites**.

Recommendations:

- **NCZMA and SCZMA** be made permanent
- Proper **ecological evaluation** before granting clearances
- **Preparing detailed map and management plan** for coral reefs, turtle nesting sites etc.

Climate equity

Climate equity ensures the just and fair distribution of the benefits of climate protection efforts among all poor and rich countries, and rural and urban populations.

Issues:

- **Poor the victim**: Climate change is an existential threat. And Poor (already surviving on the margins) are severely impacted by extreme weather events.
- **Progress vs environment**: Millions of people are still waiting to get the benefits of **economic progress** — which means access to affordable energy. And at a time when the world has literally **run out of carbon space** to accommodate their need for development.
 - **Low carbon space for the poor**: The “old” **industrialised** countries and new entrant China have appropriated **73 per cent** of the carbon space till 2019.
- **Erosion or dilution of climate equity in the negotiations**: E.g., 2015 Paris Agreement got rid of the very concept of historical emissions and the idea of “**compensation**” for the loss and damage.
- **The Sum of the nationally determined contributions (NDC) is inadequate**: Studies show that even if all NDC targets are fulfilled, it would take the world towards a **minimum of a 3°C temperature** rise or more.

Solution: Reinvent “growth” to become low-carbon, sustainable and yet affordable:

- **Carbon fiancé markets — Article 6 of the Paris Agreement — should be put to work**: g., the provision of clean energy through **millions of mini-grids** in the world of the poorest.

- **Nature-based solutions must be firmly implemented:** E.g., use the ecological wealth of poor countries and communities for mitigation as trees and natural ecosystems sequester CO₂.

Arth Ganga

Jal Shakti Ministry unveiled a new initiative under Arth Ganga (under Namami Gange Programme)

Arth Ganga aims to promote economic activities along the Ganga River bank

The new initiatives are:

- **Jalaj initiative** (Skill enhancement along with Ganga Conservation)
- **Sahakar Bharati** (sustainable economic development by public participation)
- **ImAvatar** (promotes livelihood opportunities)
- **New course 'River Champ' on CLAP: The continuous learning and activity portal (CLAP)** is an online platform for raising awareness, actions and debates around river conservation in India.

Petcoke

- India buys discounted Venezuelan petroleum coke to replace coal (due to high prices of coal)
- **Petroleum coke** (or pet coke) is a final **carbon-rich solid material** that derives from oil refining
- **Characteristics:** A tonne of petcoke is **more expensive** than coal, but produces **more energy** when burnt. It is generally not **used as fuel** because of toxic emissions, but is widely used by the cement industry – its largest consumer, as **sulphur dioxide emissions**, are absorbed by **limestone**.
- **Uses:** As fuel in Industries- Cement, Lime, Alumina etc.
- Previously **Supreme Court** had banned the use of Petcoke in NCR areas (Delhi)
- **1st shipment:** India, which counts the United States and Saudi Arabia as major petcoke suppliers, received its first-ever cargo from Venezuela at the beginning of 2022

Economics

Regulating Digital Lending

RBI has released guidelines to regulate digital lending based on the recommendation of the working group on '**digital lending**' (2021)

Definition: Digital Lending involves lending through **web platforms or mobile apps**, utilizing technology for authentication and credit evaluation.

Benefits of digital lending:

- **Ease of doing lending:** Digital lenders disburse loans and collect repayments remotely through digital channels, such as bank accounts, e-commerce accounts, or mobile wallets integrated with a partner (or) third party integration.
- **Transparency:** These cashless channels improve operational efficiency and reduce fraud by providing a clear audit trail.

Need for regulation: There have been instances of breach of data, unfair business practices, frauds, widespread defaults, digital unawareness and high-handed loan recovery practices by digital lenders.

Guidelines:

- **No third party:** All loan disbursements will be between the bank account of the borrower and RBI regulated digital lender. Any charge payable to the third party (such as lending service providers) will be paid by the lender (such as a bank) and not the borrower.
- Only **need-based data collection**
- **Only permitted entities by RBI** or under other laws are allowed to lend.
- In any digital loan, a **standardized key fact statement (KFS)** must be provided to the borrower.
- Regulated entities and the LSPs working with them must also have a **nodal grievance redress officer**
- The borrower must have the “**right to forget**” of collected data.

Sports GK

All India Football Federation (AIFF)

- FIFA has suspended AIFF due to undue legal and political interference in the federation.
- In May this year, **India’s Supreme Court** disbanded the AIFF (due to issues of mismanagement) and appointed a **three-member committee** to govern the sport. (Similar to the steps taken for BCCI, after Lodha committee recommendations)
- However, Fifa’s rules say its **member federations** must be **free from legal and political interference**.

Impact: U-17 **women’s world cup** (scheduled to be played in October in India) may not be held. Also, **Indian national team** will not be allowed to play other national football teams.

Success in women’s football: **Gokulam Kerala FC** – a professional football team based in Kerala state – became the first Indian club to play in the prestigious Asian Football Confederation (AFC) Women’s Club Championship.

Current Affairs Update (Aug 22-29)

National

Cloudburst

A cloudburst is a **localised but intense rainfall activity**. Short spells of very heavy rainfall over a small geographical area can cause widespread destruction, especially in hilly regions where this phenomenon is the most common.

Definition: Rainfall of 10 cm or more in an hour over a roughly 10 km x 10-km area is classified as a cloudburst event.

Cloudbursts are **not uncommon events**, particularly during the monsoon months. Most of these happen in the **Himalayan states** where the local topology, wind systems, and temperature gradients between the lower and upper atmosphere facilitate the occurrence of such events.

Can cloudbursts be forecast?

Specific cloudburst events cannot be forecast. **No forecast ever mentions a possibility of a cloudburst**. But there are **warnings for heavy to very heavy rainfall events**, and these are routinely forecast four to five days in advance.

Frequency of Cloudburst:

While the overall amount of rainfall in India has not changed substantially, **an increasing proportion of the rainfall is happening in a short span of time**. This kind of pattern, attributed to climate change, does suggest that **cloudburst events might also be on the rise**.

Puga

Puga hot spring area, located at the junction of the Indian and Tibetan plates along the Indus Suture Zone, has the greatest potential for the near-term development of geothermal energy in the Indian subcontinent. **ONGC** stated drilling its first well at **Puga (Ladakh)** to generate electricity using geothermal power to reduce the dependence of Ladakh on diesel-run generators.

Potential of Geothermal Power

- As per the **Geological Survey of India**, there are around **340 geothermal hot springs** in India (e.g., Chummathang (Ladakh), Cambay (Gujarat), Khammam (Telangana), Tattapani (Chhattisgarh), and Ratnagiri (MH))

- Though India has been one of the earliest countries to begin geothermal projects way back in the 1970s, but at present, there are **no operational geothermal plants in India**.
- **The top five countries** in terms of geothermal power generation are the **US, Philippines, Indonesia, Mexico and New Zealand**

Floor test

- A floor test is primarily taken to know whether the **executive enjoys the confidence** of the legislature by proving his majority
- This voting process occur in the state's Legislative Assembly or the Lok Sabha at the central level.
- As per the Constitution, the **Chief Minister is appointed by the** Governor of the state.
- In **case the majority is questioned**, the leader of the party which claims majority has to move a vote of confidence and prove majority among those present and voting.
- The Chief Minister has to **resign** if they fail to prove their majority in the house.
- This happens both in the **parliament** and the **state legislative**

National Investigation Agency (NIA)

- It is a central agency to investigate and prosecute offences:
 1. Affecting the sovereignty, security and integrity of India, security of State, and friendly relations with foreign States.
 2. Against **atomic and nuclear facilities**.
 3. **Smuggling in High-Quality Counterfeit** Indian Currency.
- It is also the **Central Counter Terrorism Law Enforcement Agency**.
- It is empowered to deal with **terror-related crimes across states without special permission from the states**.
- Established under the **National Investigation Agency Act 2008**.
- Works under the **Ministry of Home Affairs**.

India's first indigenously developed Hydrogen Fuel Cell Bus

- Union Minister Dr Jitendra Singh recently launched India's first truly indigenously developed Hydrogen Fuel Cell Bus developed by **KPIT-CSIR in Pune**. This bus has zero emissions compared to a diesel bus plying on long distance routes which usually emits 100 tonnes of CO₂ annually.
- In terms of CO₂ emissions, about 12-14 percent of CO₂ emissions in India come from diesel-powered heavy vehicles. At the same time, hydrogen fuel cell vehicles will prove to be excellent means to eliminate on-road emissions in the region.
- In HFC technology, a chemical reaction is made between hydrogen and oxygen to produce electrical energy. It does not use conventional fossil fuels such as petrol or gas. In its true sense, a fuel cell stack refers to batteries that generate electrical energy, which do not require much space to store.

- The biggest feature of this fuel cell technology is that it **emits only water**, thus cutting down on emissions of harmful greenhouse gases along with other air pollutants. Therefore, this technology is probably the most **eco-friendly mode of transport**.
- This technology also works at 65-75 degree Celsius temperature which can withstand the heat generated while driving.
- **Japan** is a leader in the use of fuel cell technology.

Lord Curzon

Of all the Viceroy's of India, **Curzon is possibly the most criticised** — he is the **man who partitioned Bengal in 1905**, and triggered a wave of Bengali nationalism that contributed to the wider Indian national movement. He was also one of the more openly imperialist of viceroys, and a man who saw **Britain's rule over India as critical to the survival of the empire**.

In 1900, Curzon famously stated, **"We could lose all our [white settlement] dominions and still survive, but if we lost India, our sun would sink to its setting."**

Reforms by Lord Curzon:

- **Educational:** Curzon brought in the Indian **Universities Act of 1904**, which brought all the universities in India under the control of the government.
- **Scientific:** The Agriculture Research Institute in Pusa (Bihar – Bengal Presidency) was established.
- **Administrative:** He instituted a **Police Commission in 1902 under the chairmanship of Sir Andrew Frazer**.
- During the Curzon regime, the **Northwest Frontier Province (NWFP) was established which covered roughly the areas of the upper course of the River Indus**.
- **Military: Imperial cadet corps** was set up which became an instrument for the Indianisation of the army later.
- **Other reforms:** He passed a law called the **Ancient Monuments Act, 1904** which made it obligatory on the part of the government and local authorities to preserve monuments of archaeological importance and their destruction an offence.

Why in news? The Bardhaman municipality, West Bengal has decided to erect a statue of an erstwhile maharaja in front of the landmark **Curzon Gate in the city**.

Har Ghar Jal

- **Goa** became 1st state to be certified with 'Har Ghar Jal' in the country.
- **Process followed:** After every household in the village is connected with tap water, **Gram Sabha** passes a resolution that not a single household is left out. Only after every village certifies its, State can be declared 'Har Ghar Jal'

- **Har Ghar Jal** aims to encourage the state to ensure **tap water connection** to every household by 2024 under **Jal Jeevan Mission (Ministry of Jal Shakti)**
- **Status:** Above **52% of the rural households** are now connected with tap water (in 2019 it was only **17%**)

MGNREGS

- It guarantees “**the right to work**”, by legally providing at least 100 days of wage employment in rural India.
- **Implementation:** The Ministry of Rural Development (MRD) in association with state governments. It is a **centrally-sponsored scheme**.
- **Within 15 days** of submitting the application or from the day work is demanded (demand-driven scheme), wage employment will be provided to the applicant, and allowances in case employment are not provided.
- **Social Audit** of MGNREGA works is mandatory
- **Gram Sabha and the Gram Panchayat** approve the shelf of works under MGNREGA and fix their priority.

Why in news? Parliamentary Standing Committee on Rural Development and Panchayati Raj’ released an action taken report on MGNREGA. The government has accepted **26 of the 33** recommendations made.

Suggestions by the Panel and action taken

- **Increase number of work days to 150 (from the current 100):** However, it has been implemented only in drought/calamity hit areas (by providing **50 additional days**) and in some states (using their own fund) e.g., Uttarakhand(150 days)
- **Promote women-centric work:** Despite efforts to involve more women, women’s participation has stagnated at around **50% in the last 5 years**.
- **Increase in wages and link it with inflation:** But currently, it is linked with **CPI-AL** (agriculture labour)
- **Timely funding:** Currently, (as per a study) wage payments were delayed for **71 per cent** of the transactions beyond the **mandated seven days**

National Gopal Ratna Awards -2022

- Gopal Ratna Award is one of the **highest National Award in the field of livestock and dairy sector**.
- **Given by:** Department of Animal Husbandry and Dairying under the Ministry of Fisheries, Animal Husbandry and Dairying

- **Objective:** to encourage all individuals and Dairy cooperative societies / Milk Producer Company / Dairy farmers Producers Organizations working in this sector, are conferred in three categories.
- The “**Rashtriya Gokul Mission (RGM)**”, was launched in December 2014 for the first time in the country, with a view to conserve and develops indigenous bovine breeds in a scientific manner.

International

Rohingyas

- Rohingya, an ethnic group, **mostly Muslim, hail from the Rakhine province of western Myanmar and speak a Bengali dialect.**
- Myanmar has classified them as “**resident foreigners**” or “**associate citizens**.”
- They were forced to leave Myanmar in large numbers after several waves of violence, which first began in 2012. The Rohingya first came to Delhi in 2012.

Status of Rohingya in India:

- **Minister of State for Home:** The then **Minister of State for Home informed Parliament** that there are around **40,000 Rohingya in India**, of which around 5,700 are in Jammu and also in Telangana, Punjab, Haryana, Uttar Pradesh, Delhi and Rajasthan.
- **UN refugee agency:** Of these, **only 16,000 are said to be registered with the UN refugee agency.**The MHA claimed that the exact number is not known as many of them enter the country clandestinely.

What is India’s stand on refugees?

- **India is not a signatory to the 1951 UN Convention relating to the Status of Refugees and the 1967 Protocol.**
- **All foreign undocumented nationals are governed as per:** The Foreigners Act, 1946, The Registration of Foreigners Act, 1939, The Passport (Entry into India) Act, 1920, The Citizenship Act, 1955.

Illegal Migrants: Foreign nationals who enter the country **without valid travel documents** are treated as illegal migrants.

Science-Tech & Environment

Tomato Flu

- The 'tomato flu' is caused by **Coxsackie virus A 16**. It belongs to the **Enterovirus family**.
- **The flu (viral) gets its name because** of the red blister it causes.
- Flu affects children below five years of age.
- **Symptoms include** rashes, high fever, joint pains, skin irritation and dehydration (similar to those of chikungunya, dengue as well as hand, foot, and mouth disease)
- **This flu is a self-limiting one** and there is **no specific drug** for this. This means that the symptoms will resolve over time on their own if supportive care is given.
- Like other cases of flu, tomato fever is also **contagious**. "If someone is infected with this flu, they need to be kept in isolation as this could spread rapidly from one person to another."

Forever chemicals

A recent study published in Environment Science and Technology has found that rainwater from many places across the globe is contaminated **with "per- and polyfluoroalkyl substances," (PFAs)**, which are called **"forever chemicals"** because of their tendency to **stick around in the atmosphere, rainwater and soil for long periods of time**.

According to the US Centre for Disease Control and Prevention (CDC), **PFAs are man-made chemicals used to make nonstick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, firefighting forms and many other products that resist grease, water and oil.**

PFAS can lead to many health related problems like cancer, infertility and slow growth of children.

Presently, there is no known method from which we can extract and remove PFAs from the atmosphere. But there are certain effective methods to remove them from rainwater. One way is to absorb it from the atmosphere using a filtration system with activated carbon but in this process the activated carbon needs to be replaced regularly as well as the old contaminated material must be destroyed from time to time.

NAFIS

- National Automated Fingerprint Identification System (**NAFIS**) has been launched by the **Home Ministry** to allow a country-wide **search of crime-related fingerprints**.
- NAFIS will create a unique **10-digit national fingerprint number (NFN)** for each person arrested for the crime. Using the **database** of fingerprints, different crimes can be linked to NFN.
- It will **"provide the much-needed unique identifier** for every arrested person in the CCTNS (Crime and Criminal Tracking Network & Systems)
- **Developed by:** National Crime Records Bureau (NCRB)
- Already implemented in **Madhya Pradesh** (to identify deceased persons)

Facial recognition Technology

Facial recognition Technology is an automated process of comparing two images of faces to determine whether they represent the same individual. Also, recently **DigiYatra** (facial recognition technology) has been operationalised at many Indian airports.

Potential benefits in various aspects of law enforcement

- **Helps in Finding missing people** and identifying perpetrators.
- **Identification of Missing Children:** In April 2018, the Delhi Police trial of a facial recognition system commissioned by the Delhi High Court helped correctly **identify approximately 3000 missing children.**
- **Improving outcomes** in the area of **Criminal identification and verification.**
- **Better security measures** in banks and airports. **The government's Digi-Yatra** policy is to give a —seamless, hassle-free, and paperless journey experience to every air traveller in India.
- **Helps civilian verification** when needed and helps in the reduction of **fake IDs.**
- **Drastically reduces human touchpoints:** Facial recognition requires fewer human resources than other types of security measures, such as fingerprinting.
- **International usage:** Several countries are already using FRT on a large scale for ease of internal security and in their criminal justice system e.g. China.

Issues associated with the use of FRT

- **Accuracy rates fall starkly based on race and gender:** This can result in a false positive, where a person is misidentified as someone else, or a false negative where a person is not verified as themselves.
- **A greater threat to individual and societal privacy. The FRT system violates the right to privacy:** As per the **Puttaswamy judgment**, Privacy is a fundamental right, even in public spaces, Large-scale recordings, storing and analysis of images undermine this right because it means it won't be possible to do anything in public without the state knowing about it.
- **Issues of 'Function Creep':** Delhi police widening of the purpose for FRT (from finding missing children to surveillance) demonstrates an instance of '**function creep**' wherein a technology or system gradually widens its scope from its original purpose to encompass and fulfil wider functions.

- **Violates personal rights:** Can infringe on personal freedoms. **Informed consent:** Facial recognition technology is typically **deployed without consent**, by both the private and public sectors.
- **State surveillance:** The technology makes it possible for Government and the law enforcement agencies to identify people who attend or participate in rallies or in any other **form of political or social dissent** and thereafter potentially put them under surveillance to track their movement. eg. Allegations of the **Delhi Police** were using FRT to surveil the anti-CAA protests in the 2019, 2020 northeast Delhi riots, the 2021 Red Fort violence, and the 2022 Jahangirpuri riots.
- **Creates data vulnerabilities:** There is also concern about the storage of facial recognition data, as these databases have the **potential to be breached**. Provides **opportunities for fraud** and **other crimes**.
- **Factors** that could influence the **efficacy, accuracy, and potential biases** of FRT in India include **skin colour, geography, religion, and caste**.

What is Gene Modulation?

Gene modulation refers to the process of **temporarily altering gene expression** levels without making heritable changes to the underlying cellular DNA.

Benefit for India in adopting this practice:

- **Added the same gene again, and not any foreign one** (it is genetic modulation and not a genetic modification (GM) or transgenic plant (i.e. carrying elements from another donor): Thus it reduces the risk related to GM or transgenic crops. **For example**, BT cotton involves the transfer of the gene from the bacterium called *Bacillus thuringiensis* (BT) to be transferred to normal cotton.
- **No regulation on Gene Modification:** India has exempted crops with certain kinds of genetic modifications from the regulations previously imposed on the commercialisation of all genetically modified crops.

SING Project

Spectrographic Investigation of Nebular Gas (**SING**) Project is collaboration between the Indian Institute of Astronomy (IIA) and the Russian Academy of science for designing payload for China's Tiangong Space station.

Concern: Tension between India and China has cast a concern about the future of the project.

A **spectrograph** is an instrument that **separates incoming light** by its wavelength or frequency and records them. Many astronomical observations **use telescopes as**, essentially, spectrographs.

About China's Programme: The space station will operate in **low-Earth orbit** (340-450 km)

ISS is scheduled to be decommissioned after **2024** to leave place for the Lunar Gateway, a small outpost that will orbit the Moon (under NASA's Artemis Mission)- China not included

Others planned space stations:

- **Lunar Gateway:** NASA, European Space Agency (ESA), Japan Aerospace Exploration Agency (JAXA), and Canadian Space Agency (CSA).
- **The Russian Orbital Service Station** is scheduled to begin construction in **2025**.
- **Starlab** is the name given to the planned LEO space station designed by **Nanoracks** for commercial space activities uses.
- **Indian Human Spaceflight Programme:** as a follow-up programme of the Gaganyaan mission.

Anna Mani

- Google dedicated a **doodle to Anna Mani**, India's first female physics scientist. She was a physicist as well as a meteorologist. She is popularly known as the **Weather Woman of India**.
- After graduation, **she taught at WCC for a year and won a scholarship for postgraduate studies** at the Indian Institute of Science, Bangalore.

Observatory to monitor space activity

- India's first commercial space observatory will be set up in the **Garhwal division of Uttarakhand**.
- This observatory will monitor the **10 cm size of microscopic particles** moving in the space around the Earth. This **space situational awareness (SSA)** observatory will help in **monitoring space waste and military satellites hovering in space around the Earth**.
- **SSA** refers to the knowledge of the space environment, including location and function of space objects and space weather phenomena. It covers: **Space Surveillance and Tracking (SST)** of man-made objects, **Space weather monitoring**, **Near-earth objects monitoring**

Economics

Privatization of Bank debate

Arguments for

- Private sector banks are far more **efficient**, far more **productive** and far **less corrupt** than the PSBs.

- Private banks had a **greater contribution towards extending loans**. They also had a higher percentage of contribution to getting deposits from savers.
- Private banks **added more branches and created new jobs** while the public sector banks saw declines on both counts.
- More often than not **public sector banks** have been disproportionately **guilty of fraud**.

Arguments against:

- In a paper titled “Privatization of Public Sector Banks: An Alternate Perspective” by RBI “**a big bang approach of privatization of these (public sector or government-owned) banks may do more harm than good**”.
- **Rural reach:** While the private banks dominate the metropolitan areas, it is the public sector banks that operate branches in rural India.
- PSBs provide more **ATMs** in rural India.
- **Social relevance:** E.g., Private sector banks accounted for just 1.3 crores of the total of almost 46 crore beneficiaries of PM Jan Dhan Yojana.
- **PSB is better in financial inclusion:** On **profit maximization**, Private banks are more efficient but when the objective is **financial inclusion**—PSBs are better.
- **Infrastructure finance:** PSBs have a **lion’s share** in these lendings.
- PSBs are also **more effective in monetary policy** transmission, aiding the countercyclical monetary policy actions to gain traction.

UPI continues global expansion, now entering the UK market

- Continuing its expansion outside India, the indigenously developed real-time payments solution **UPI will now enter the UK market starting with QR code-based transactions**.
- The UK will be the eighth country where UPI-based services will be made available. UAE, Japan, the US, Singapore, Bhutan, Nepal and France are already accepting UPI-based payment services.
- The NPCI International Payments Ltd (NIPL) has forged a partnership with payments solutions provider **PayXpert to internationalise the acceptance of its payment solutions in the UK**.

Sovereign Gold Bond Scheme(series II)

Sovereign Gold Bonds(SGB) 2022-23 (Series II) will be opened for subscription during the period August 22-26, 2022 with a Settlement date of August 30, 2022.

SGB scheme:

- It was launched in November **2015** with an objective to reduce the demand for physical gold and shift a part of the domestic savings – used for the purchase of gold – into financial savings.

- **Issuance:** The Gold Bonds are **issued as Government of India Stock under the Government Securities (GS) Act, 2006**. These are **issued by the RBI (Reserve Bank of India) on behalf of the Government of India**.
- **Minimum and Maximum limit:** The minimum permissible investment limit will be **1 gram of gold, while the maximum limit will be 4 kg for individuals, 4 kg for Hindu Undivided families and 20 kg for trusts and similar entities per fiscal (April-March)** notified by the government from time to time.
- **Stock exchange:** Bonds are sold through Commercial banks, Stock Holding Corporation of India Limited (SHCIL), designated post offices and recognised stock exchanges viz National Stock Exchange of India Limited and Bombay Stock Exchange, either directly or through agents.
- **Eligibility:** The bonds are **restricted for sale to resident individuals, Hindu Undivided Families (HUFs), trusts, universities and charitable institutions**.
- **Term:** The gold bonds come with a **maturity period of eight years**, with an option to **exit the investment after the first five years**
- **Collateral:** Bonds can be used as **collateral for loans**. The loan-to-value (LTV) ratio is to be set equal to ordinary gold loans mandated by the Reserve Bank from time to time.

What is Universal Basic Income?

UBI is a model for **providing all citizens** of a country with a guaranteed minimum sum of money, regardless of their income, resources or employment status. This provides a **“safety net preventing any citizen”** from sinking below a basic minimum standard of living

Economic Survey 2016-17 has recommended UBI as an **alternative to the various subsidy**

Issues with UBI:

- Lack of political will
- Huge fiscal pressure
- Free cash to people may increase the inflation rate
- Difficulty in reducing subsidies on exiting schemes
- No guarantee that cash will be spent on productive assets.

Sports GK

R Praggnanandhaa

16-year-old R Praggnanandhaa, India's **young grandmaster**, defeated world number one Magnus Carlsen for the third time this year. He defeated Carlsen 4-2 in the final round of the FTX Crypto Cup. Despite the victory over Carlsen, he finished second in the final table. Carlsen won the title by scoring the most points.

Magnus Carlsen is a five-time World Chess Champion and a Norwegian chess grandmaster. He has won the World Rapid Chess Championship three times and the World Blitz Chess Championship five times. Since, 1st July 2011, he has been ranked first in the FIDE world chess rankings.

State GK

Chandigarh Airport to be named after Shaheed Bhagat Singh

Recently Punjab Chief Minister Bhagwant Mann and Haryana Deputy CM Dushyant Chautala collectively decided to name Chandigarh International Airport after Shaheed Bhagat Singh.

Earlier Punjab Vidhan Sabha had passed a resolution to name the airport as 'Shaheed-E-Azam Sardar Bhagat Singh International Airport, Mohali' but haryana objected it due to mohali in its name. later Haryana Vidhan Sabha passed a resolution on renaming the terminal, but with the use of 'Chandigarh'.