



# Current Affairs for Prelims

**October 2021**

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## 1. Golconda Fort

- It is located in the western part of Hyderabad city
- It was **originally known as Mankal**, and built on a hilltop **in the year 1143**.
- The fort was built by the **Kakatiya dynasty**.
- India's one of the most outstanding citadels, the Golconda fort epitomises the sumptuous 'Nawabi' culture of the time.
- The Golconda fort came into the possession of the Bahmani dynasty.
- Later, the Qutub Shahi dynasty took over and made Golconda its capital.
- Golconda fort owes much of its present grandeur to Mohammad Quli Qutub Shah.
- By the 17th century, Golconda was famous as a diamond market. It gave the world some of the best-known diamonds, including the 'Kohinoor'.



## 2. Qutb Shahi Tombs complex

- Lying two kilometers from the Golconda Fort, the Qutb Shahi Tombs are **built in Persian, Hindu and Pathani styles of architecture**.
- The tombs were planned and built by numerous monarchs who ruled the state during the 18th century.
- The grandeur of the tombs is ensconced amidst the beautiful and picturesque landscape and gardens of Ibrahim Bagh, and the tombs themselves are dedicated to the seven Qutub Shahi kings who ruled Golconda for nearly 170 years.



- One of the most impressive tombs belongs to the **founder of Hyderabad, Mohammed Quli Qutub Shah** which rises to a height of 42 meters.
- The tombs are domed structures built on a square base surrounded by pointed arches and are surrounded by landscaped gardens.
- The tombs of Taramati and Premamati are honoured with a space inside the royal necropolis of the dynasty.
- Taramati and Premamati are believed to have been singers and dancers in the court of Abdullah Qutb Shah, the seventh ruler of the kingdom of Golconda.
- Premamati tomb is bigger than that of Taramati. While the tomb of Taramati has a square plan, the tomb of Premamati has an octagonal plan.
- It is believed that the king gave Taramati and Premamati an elevated status and gave them jagirs.
- Premamati tomb is the only one in the Qutb Shahi Tomb Complex which has inscriptions laid in stone above the door.

### 3. Ramappa Temple in Palampet

- The 13th century Ramappa temple in Palampet, Telangana, was recently declared as a UNESCO World Heritage Site by the World Heritage Committee (WHC).
- Earlier, the Ramappa Temple was part of a 'serial nomination' along with the Thousand Pillar Temple, Swayambhu Temple and Keerti Thoranas of Warangal Fort.
- The Ramappa Temple is a jewel of the Kakatiya era and it stands out.
- An inscription in the temple dates it to the year 1213 AD and says it was built by a General Recherla Rudra, during the period of the Kakatiya ruler Ganapati Deva.



- The Siva temple is perhaps the only one in the country that is known by the name of the architect rather than the king who commissioned it or its presiding deity.
- The stunning dance sculptures and friezes of the temple appear as if they have been machined into shape on black dolomite, rather than being chiseled.
- The temple is built on a valley and it rests on bricks that are scientifically shown to float in water.

## 4. Global Hunger Index

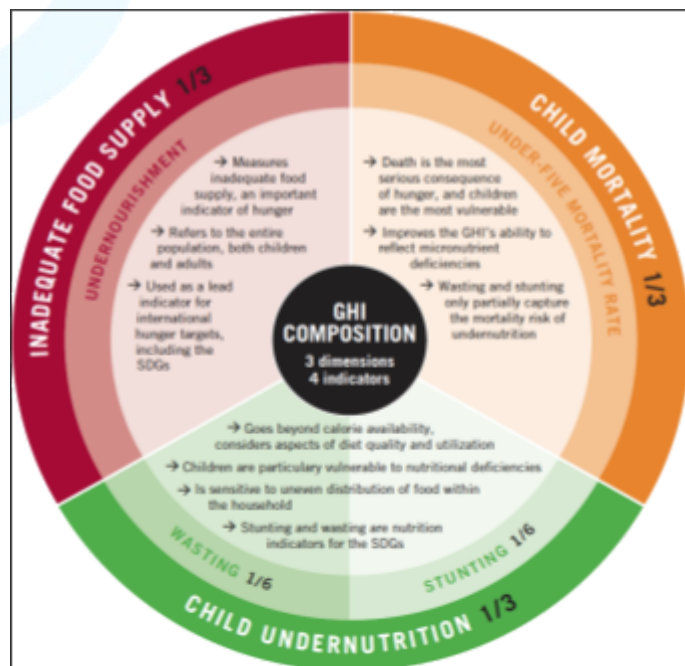
- India has slipped to 101st position in the Global Hunger Index (GHI) 2021 of 116 countries, from its 2020 position of 94th.

- It is jointly published by Concern Worldwide and Welthungerhilfe.

- It comprehensively measures and tracks hunger at the global, regional, and country levels.

- It is calculated on the basis of four indicators:

- Undernourishment
- Child Wasting
- Child Stunting
- Child Mortality



- Based on the values of the four indicators, the GHI determines hunger on a 100-point scale.
- Undernourishment data are provided by the Food and Agriculture Organisation and child mortality data are sourced from the UN Inter-agency Group for Child Mortality Estimates (UN IGME).
- Child wasting and stunting data are drawn from the joint database of UNICEF, the World Health Organization (WHO) and the World Bank, among others.



- Based on current GHI projections, the world as a whole – and 47 countries in particular – will fail to achieve a low level of hunger by 2030.

## 5. Sir Syed Ahmad Khan

- Sir Syed Ahmed Khan was a teacher, politician, social reformer etc. He was also the founder of Aligarh muslim university.
- He has often been criticised as the father of Two nation theory which led to the formation of two separate nations i.e. India and Pakistan.
- His concept of nation was inextricably woven with secular ideals.
- He believed in a multiculturalism under which all cultural communities must be entitled to equal status under state.
- Sir Syed supported the British during the 1857 revolution. This effort of Sir Syed Ahmed Khan had been condemned by some nationalists such as Jamaluddin Afghani. In 1859, Sir Syed published the booklet Asbab-e-Baghawat-e-Hind (The Causes of the Indian Revolt) in which he studied the causes of the Indian upheaval.

## 6. The Electricity (Amendment) Bill

- The Amendment is bringing in provisions to **de-license power distribution** allowing private sector players to enter the sector and compete with state-owned power distribution companies (discoms).
- The move would allow consumers to choose between power distribution companies.
- The broad objectives of the Bill are:
  - To ensure consumer centricity,
  - To promote ease of doing business,
  - To enhance sustainability of the power sector
  - To promote green power.
- The draft Bill has covered nearly a dozen areas, such as distribution franchise and sub-licence, subsidy, and cost reflective tariff.

### Key Features

- **De-licensing**
- **Universal service obligation**
- **Appellate Tribunal for Electricity (APTEL).**
- **Renewable Power Obligation.**
- **Penalty:** Penalty for contravention of the provisions of the Act has been increased up to Rs 1 crore. Non-fulfillment of RPO will attract stringent penalties as per the proposed amendments.

- Among the remedies presented by the government through the initiative are:
  - direct benefit transfer (DBT) of subsidies,
  - reduction of cross subsidies,
  - role for distribution sublicensees with regulators' nod,
  - the adoption of a national renewable energy policy
  - the establishment of the electricity contract enforcement authority.

## 7. HC allows medical termination of 24-week pregnancy

- The Act regulates the conditions under which a pregnancy may be aborted. The Bill increases the time period within which abortion may be carried out.

- Currently, abortion requires the opinion of one doctor if it is done within 12 weeks of conception and two doctors if it is done between 12 and 20 weeks.

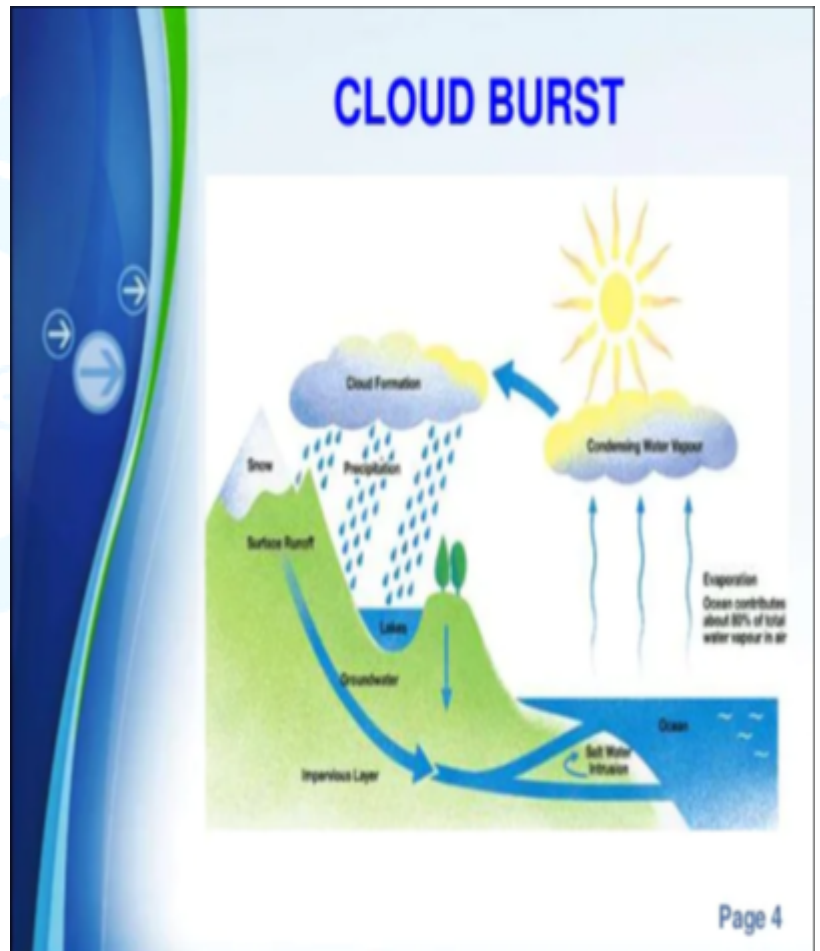
Time since conception	Requirement for terminating pregnancy	
	MTP Act , 1971	MTP (Amendment) Bill, 2020
Up to 12 weeks	Advice of one doctor	Advice of one doctor
12 to 20 weeks	Advice of two doctors	Advice of one doctor
20 to 24 weeks	Not allowed	Two doctors for some categories of pregnant women
More than 24 weeks	Not allowed	Medical Board in case of substantial foetal abnormality
Any time during the	One doctor, if immediately necessary to save pregnant	

- The Bill allows **abortion to be done on the advice of one doctor up to 20 weeks, and two doctors in the case of certain categories of women between 20 and 24 weeks.**

- The Bill sets up **state level Medical Boards** to decide if a pregnancy may be terminated after 24 weeks in cases of substantial foetal abnormalities.

## 8. Cloud Burst

- Cloudburst, **a sudden, very heavy rainfall**, usually local in nature and of brief duration. Most so-called cloudbursts occur in connection with thunderstorms.
- In these storms there are violent rushes of air, which at times prevent the condensing raindrops from falling to the ground.
- Cloudburst is basically a rainstorm and occurs mostly in **the desert and mountainous regions, and in interior regions of continental landmasses** due to the warm air current from the ground or below the clouds rushes up and carries the falling raindrops up with it.



- Historically, cloudbursts usually do not last for more than a few minutes, however, they are capable of flooding the entire area in no time. As per reports, rainfall from **a cloudburst is usually equal to or greater than 100 mm per hour**.
- In the Indian Subcontinent, it **generally occurs when a monsoon cloud drifts northwards**, from the Bay of Bengal or the Arabian Sea across the plains then on to the Himalaya that sometimes brings 75 millimetres of rain per hour.

## 9. Tribunal Reforms Bill

- The Bill seeks to dissolve certain existing appellate bodies and transfer their functions (such as adjudication of appeals) to other existing judicial bodies. The Bill replaces a similar Ordinance promulgated in April 2021.

- There was lack of discussion over the bill, and the government has re-enacted the very same provisions struck down by the Court in the **Madras Bar Association case (2021)**.
- The Finance Act, 2017 merged tribunals based on domain. For example, the Competition Appellate Tribunal has been merged with the National Company Law Appellate Tribunal.
- The Chairperson and Members of the Tribunal will be appointed by the central government on the recommendation of a Search-cum-Selection Committee.
- The Committee will consist of:
  - The Chief Justice of India, or a Supreme Court Judge nominated by him, as the Chairperson (with casting vote).
  - Two Secretaries nominated by the central government.
  - The sitting or outgoing Chairperson, or a retired Supreme Court Judge, or a retired Chief Justice of a High Court, and The Secretary of the Ministry under which the Tribunal is constituted (with no voting right).
  - It will have separate search-cum-selection committees with the Chief Justice of the High Court of the concerned state, as the Chairman (with a casting vote).
- The Bill provides for a four-year term of office (subject to the upper age limit of 70 years for the Chairperson, and 67 years for members). Further, it specifies a minimum age requirement of 50 years for appointment of a chairperson or a member.
- It states that the central government shall, on the recommendation of the Search-cum-Selection Committee, remove from office any Chairperson of a Member.

## 10. Mahaparinirvana

- Mahaparinirvan is one of the major goals of Buddhism. It means “Nirvana after death”. Parinirvan is written as **Parinibbana in Pali**. Pali language is native to the Indian continent.
- The Buddhist text “Mahaparinibbana Sutta” considers the **death of Lord Buddha at the age of 80** as the original Mahaparinirvan.
- The **Parinirvana Stupa is a Buddhist temple in Kushinagar**, India which is said to be the place of death of Gautama Buddha, the founder of Buddhism.

- Alexander Cunningham conclusively proved that Gautama Buddha had died in the area.
- The present temple was built by the Indian Government in 1956 as part of the commemoration of the 2,500th year of the Mahaparinirvana or 2500 BE (Buddhist Era).
- Inside this temple, there is a **Reclining Buddha image** lying on its right side with the head to the north.
- The statue is 6.1 m long and rests on a stone couch. After 45 years of missionary activities, the Buddha, severely stricken with illness, finally reached Kushinagar, where he ordained his last disciple and uttered his last words to the sangha and attained Parinirvana in 487 BCE.
- Maurya king Ashoka reportedly visited Kushinagar in 260 BCE where he built several caityas, stupas to honor the Buddha's place of Nirvana.
- Buddhist sites in Kushinagar were steadily expanded during the **Kushan empire** (c. 50–241 CE), while Kushinagar witnessed a golden age during the **Gupta empire** (c. 320–647 CE) when the Parinirvana Stupa was largely expanded and Parinirvana Temple was reconstructed along with a huge reclining Buddha statue.

## 11. Arahat Bhikkhu

- An **arhat** is a 'worthy one' or a 'perfected person'. Theravada Buddhists believe that an Arhat is someone who has reached enlightenment and ended their suffering by following the path taught by the Buddha.
- Theravada Buddhists believe that an arhat has 'blown out' the **Three Poisons** of **greed, hatred** and **ignorance** and so has been able to attain **nibbana**.
- Once a person becomes an arhat, they are free from the cycle of **samsara** and will not have to be reborn again once they die. After death, they achieve nibbana and are fully enlightened. The Buddha and some of his followers were arhats as they were able to free themselves from worldly desires and suffering.

## Bhikkhus

- Both the Mahavira and the Buddha felt that only those who left their homes could gain true knowledge. They arranged for them to stay together in the sangha, an association of those who left their homes.

- Men and women who joined the sangha led simple lives. They meditated for most of the time, and went to cities and villages to beg for food during fixed hours.
- That is why they were known as **bhikkhus** (the Prakrit word for renouncer – beggar) ,and **bhikkhunis**. They taught others, and helped one another. They also held meetings to settle any quarrels that took place within the sangha.

## 12. Theri Bhikkhuni' Sanghamitta

- '**Theri Bhikkhuni' Sanghamitta**, the daughter of the Emperor, in Sri Lanka, bearing a sapling of the 'sacred Bodhi tree' under which **Siddhārtha Gautama** is believed to have attained enlightenment.
- The gesture comes at a time when Sri Lanka and India have agreed to strengthen ties through their shared Buddhist heritage.



## 13. INSACOG

- The government has launched the Indian SARS-CoV-2 Genomic Consortia (INSACOG), comprising 10 labs namely DBT-NIBMG Kalyani, DBT-ILS Bhubaneswar, ICMR-NIV Pune, DBT-NCCS Pune, CSIR-CCMB Hyderabad, DBT-CDFD Hyderabad, DBT-InSTEM/ NCBS Bengaluru, NIMHANS Bengaluru, CSIR-IGIB Delhi, and NCDC Delhi.
- The aim of the Indian SARS-CoV-2 Genomics Consortium is **to monitor the genomic variations in the SARS-CoV-2** on a regular basis through a multi-laboratory network.
- This vital research consortium will also assist in developing potential vaccines in the future.
- The consortium will ascertain the status of a new variant of SARS-CoV-2 (SARS-CoV-2 VUI 202012/01) in the country, establish sentinel surveillance for early detection of genomic variants with public health implication, and determine the genomic variants in the unusual events/trends (super-spreader events, high mortality/morbidity trend areas, etc).

- Coordinated by the Department of Biotechnology (DBT) along with MoH&FW, ICMR, and CSIR, the strategy and roadmap of the National SARS CoV2 Genome Sequencing Consortium (INSACOG) has been prepared.

## 14. Variant of Concern

- These are variants for which there is evidence of an **increase in transmissibility, more severe disease** (increased hospitalizations or deaths), **significant reduction in neutralization** by antibodies generated during **previous infection or vaccination**, reduced effectiveness of **treatments or vaccines**, or **diagnostic detection failures**.
- **A VOI can become a VOC** if it is demonstrated to be associated with an increase in **transmissibility or virulence**, or with a “decrease in effectiveness of **public health and social measures** or available **diagnostics, vaccines, and therapeutics**”.
- Currently, four variants of the **coronavirus** are designated as variants of concern: Alpha (lineage B.1.1.7, the so-called ‘UK variant’), Beta (lineage B.1.351, ‘South Africa variant’), Gamma (lineage P.1, ‘Brazil variant’), Delta (lineage B.1.617.2).

## 15. UN Climate Change Conference (COP26)

- The CoP comes under the United Nations Climate Change Framework Convention (UNFCCC) which was formed in 1994.
- The UNFCCC was established to work towards “stabilisation of greenhouse gas concentrations in the atmosphere.
- It laid out a list of responsibilities for the member states which included:
  - Formulating measures to mitigate climate change.
  - Cooperating in preparing for adaptation to the impact of climate change.
  - Promoting education, training and public awareness related to climate change.

### COP26 Goals

- **Secure global net-zero by mid-century and keep 1.5 degrees within reach.**
- **Adapt to protect communities and natural habitats.**
- **Mobilise finance:** To deliver on our first two goals, developed countries must make good on their promise to mobilise at least \$100bn in climate finance per year by 2020. ‘
- **Finalise the Paris Rulebook’:** Leaders will work together to frame a list of detailed rules that will help fulfil the Paris Agreement.

## 16. Barahoti in Uttarakhand

- Barahoti, in Chamoli district of Uttarakhand, which witnessed the first Chinese intrusions on Indian soil in 1954.
- The PLA incursion into Barahoti, a demilitarised zone in Uttarakhand in August was a significant pointer to the renewed Chinese aggression against India.
- The incursion of Chinese patrols in Arunachal Pradesh have also increased in frequency and duration.
- The major reason for China’s aggressiveness is to further the institutional interest as the army of the revolution which is currently losing its pre-eminence in Taiwan and South China Sea.
- PLA’s view that the Indian military has been exerting a greater presence on Chinese territory in the border areas in the last 10-12 years is also a reason.
- The Doklam stand-off of 2017, when Indian soldiers walked onto Bhutanese territory claimed by China, was a turning point in the PLA’s approach.
- Beijing’s unilateral action of changing the status quo resulted in the Ladakh crisis.



## 17. E-voting

- Former **Chief Election Commissioners (CEC)** have raised a range of concerns around the idea of **online voting and remote voting**, at a time the **Telangana State Election Commission (SEC) is set to carry out an e-voting experiment and the Election Commission of India (EC)**, too, is exploring remote voting.
- The online voting system will manage the voter’s details and Candidate details.



- It will allow electors to vote from faraway cities without going to the designated polling station of their constituencies. The voters will have to reach a designated venue during a pre-decided period of time to be able to use this facility.
- The **IIT-M** is developing a system for two-way remote voting in a controlled environment using blockchain technology.
- It would entail voter identification and authorisation on the **Electoral Registration Officer Network** (ERO Net) using biometric data and web cameras for authentication, followed by a blockchain-based e-ballot generation, which would convert into a vote once the hash code would be generated on its execution.
- The encrypted remote votes cast would once again be validated at the pre-counting stage to ensure that they have neither been decrypted nor tampered with or replaced.
- Voters can login and use his/her voting rights.
- The system can manage the information data very efficiently.
- The proposed system is more reliable, faster, accurate and easy to handle compared to existing manual systems.
- It helps to computerize everything and reduces the errors as compared to manual voting systems.

## 18. Share of Proceeds (SOP) to the Adaptation Fund

- For developing countries, adaptation is a necessity.
- However, it remains severely underfunded compared to financing for mitigation activities.
- While developing countries emphasise that the SOP must be uniformly applied to **Articles 6.2 and 6.4 to fund adaptation**, developed countries want to restrict its application to **Article 6.4**.
- This would disincentive the **Article 6.4** mechanism and limit voluntary cooperation to the cooperative approaches under **Article 6.2** favoured by developed countries.

### Article 6.2



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- Article 6.2 provides an accounting framework for international cooperation, such as linking the emissions-trading schemes of two or more countries.
- It also allows for the international transfer of carbon credits between countries.

## Article 6.4

- It establishes a central UN mechanism to trade credits from emissions reductions generated through specific projects.
- For example, country A could pay for country B to build a wind farm instead of a coal plant. Emissions are reduced, country B benefits from the clean energy and country A gets credit for the reductions.

## Difference of opinion between developed and developing

- Developing countries emphasize that the SOP must be uniformly applied to Articles 6.2 and 6.4 to fund adaptation, developed countries want to restrict its application to Article 6.4.
- This would disincentivize the Article 6.4 mechanism and limit voluntary cooperation to the cooperative approaches under Article 6.2 favoured by developed countries.

## 19. Tax Havens

- A tax haven is generally an **offshore country that offers foreign individuals and businesses little or no tax liability in a politically and economically static environment.**
- Tax haven countries generally include no or low-income taxes, minimal reporting of information, lack of transparency obligations, lack of local presence requirements, and marketing of tax haven vehicles.
- Many have secrecy laws that block information on their deposits from foreign tax authorities.
- Depositing money in a tax haven is legal as long as the depositor pays the taxes required by the home jurisdiction.
- Generally, tax havens do not require residency or business presence for individuals and businesses to benefit from their tax policies.
- Some of the most popular tax haven countries include Andorra, the Bahamas, Bermuda, the British Virgin Islands, the Cayman Islands, the

Channel Islands, the Cook Islands, Hong Kong, Mauritius, Lichtenstein, Monaco, Panama, British Virgin Islands, and the Cayman Islands.

## 20. Digital Services Taxes

- The “digital services tax” (DST) is a levy on the overall revenues earned by the supplier of specific digital services.
- The DST should not be confused with the so-called “Netflix tax,” which one may find in some western countries.
- The Netflix tax is essentially a “value-added tax” on digital services where the consumer bears the entire tax burden on the value of the final product.
- The DST is aimed at ensuring that non-resident, digital service providers pay their fair share of tax on revenues generated in the Indian digital market.
- India’s 2% DST is levied on revenues generated from digital services offered in India, including digital platform services, digital content sales, and data-related services.
- India was one of the first countries in the world to introduce a 6% equalization levy in 2016, but the levy was restricted to online advertisement services (commonly known as “digital advertising taxes” or “DATs”).
- In March 2020, it expanded the scope of the existing equalization levy to a range of digital services that includes e-commerce platforms. Any payment made by non-residents in connection with an Indian user will now attract a 2% levy.

## 21. GM Crops

- GM Food is food with modified genes for certain traits. Their properties are altered in order To enhance their pest resistance like in **BT Cotton, DMH-11 Mustard**.
- To enhance nutritional values like Golden Rice. Commercially in India, only BT Cotton can be grown.
- **GM rice** is not grown commercially in India.
- Worried farmers groups and environmental activists, however, noted that multiple GM rice varieties have been approved for confined field trials.
- There seems a possibility of cross-contamination from such field trials directly or through seed leakages.

- They have warned that any cross-contamination could dampen the country's agricultural export ambitions.
- The approval and regulation for GM crops in India is done by the **Genetic Engineering Appraisal Committee (GEAC)**. In August 2020, FSSAI had also issued the order that 24 food crops the country imports would need a 'non-GM-origin-cum-GM-free certificate'.

## 22. Kushinagar

- Kushinagar is an International Buddhist Pilgrimage Centre where Buddhists believe **Gautama Buddha delivered his last sermon and attained 'Mahaparinirvana' or salvation.**
- Kushinagar is also identified with Kushinara, **capital of the ancient Malla republic** which was one of the **16 Mahajanapadas of the 6th-4th centuries BC.**
- The area went on to be part of the kingdoms of the Mauryas, Shungas, Kushanas, Guptas, Harshavardhana, and the Palas.
- Kushinara is believed to have been inhabited until at least the 12th century. The first excavations in Kushinagar were carried out by **Alexander Cunningham and ACL Carlleyle** who unearthed the main stupa and the 6-metre-long statue of the Reclining Buddha in 1876.
- Kushinagar is also the centre of the **Buddhist circuit** which consists of pilgrimage sites at **Lumbini, Sarnath and Gaya.** Further, Kushinagar is also among the very few places in India where The Buddha is depicted in reclining form.
- The prime tourist attractions in Kushinagar includes the ancient **Mahaparinirvana Temple**- one of the most sacred shrines for Buddhists, Rambhar Stupa, Kushinagar Museum, Sun Temple, Nirvana Stupa, Matha Kuar Shrine, Wat Thai Temple, Chinese Temple, Japanese Temple.

## 23. Border Security Force

- The BSF is India's border guarding organization on its border with Pakistan and Bangladesh. It comes under the Ministry of Home Affairs.
- It was raised in the wake of the 1965 War on 1 December 1965 for ensuring the security of the borders of India and for matters connected therewith.
- The BSF has its own cadre of officers but its head, designated as a **Director-General (DG)**, since its raising has been an officer from the Indian Police Service (IPS).

- It has an **air wing, marine wing, an artillery regiment, and commando units.**
- It contributes dedicated services to the **UN peacekeeping Mission** by sending a large contingent of its trained manpower every year. It has been termed as the **First Line of Defence of Indian Territories.**
- The MHA has exercised the powers under the Border Security Force Act of 1968.
- It has thus outlined the area of BSF's jurisdiction.
- While the places marked here are within 50 km of the respective borders, this is not meant to represent the BSF's jurisdiction.
- At the same time, the Ministry has reduced BSF's area of operation in Gujarat from 80 km from the border, to 50 km.

## 24. AUKUS

- The US administration announced a new trilateral security partnership for the **Indo-Pacific, between Australia, the U.K. and the U.S. (AUKUS).** As part of this, Australia will acquire nuclear-powered submarines with help from the U.K. and the US within 18 months.
- Under the AUKUS partnership, Australia will also join these elite countries. Further, Australia will also be the only country to have such submarines without having a civilian nuclear power industry.
- This trilateral grouping is security-focused. An official said that the AUKUS is not aimed at any one country, it's about advancing the strategic interests of the AUKUS Countries and upholding the international rules-based order, and promoting peace and stability in the Indo-Pacific.
- Under the AUKUS alliance, the US and UK are willing to export nuclear technology to a non-nuclear powered nation.

## 25. Amur Falcon

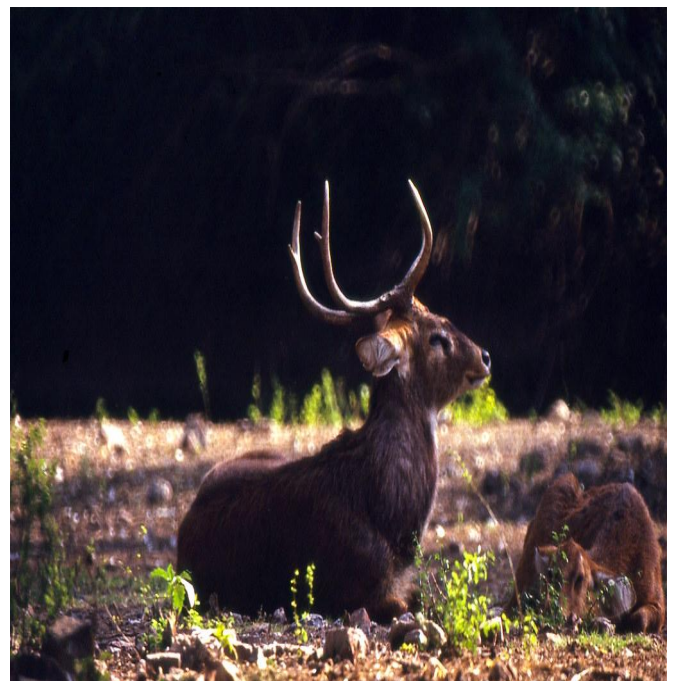
- The Amur Falcon is a **long-distance Migratory bird.** It is a small raptor of the falcon family .

- It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern Africa It travels around 22,000 kms.
- which is one of the longest distances to be travelled by a bird At just 150 grams, an Amur falcon, *Falco amurensis* is a small bird, the male mostly grey in colour, and the females having dark-streaked cream or orange underparts.
- IUCN status: **Least concerned**
- Amur Falcon is protected under both the **Wildlife (Protection) Act, 1972** and Convention on Migratory species It is also listed in **Appendix II of CITES.**



## 26. Brow-antlered deer (Sangai)

- It is an **endemic and rare subspecies** of brow antlered deer found only in Manipur.
- It is the state animal of Manipur Its habitat is restricted to the **marshy wetland of Keibul Lamjao** over the **floating biomass** in **Loktak Lake** which is locally called 'phumdi' It is also **one of the seven Ramsar sites** of international importance.
- The habitat of the sangai is now protected as the **Keibul Lamjao National Park**. Keibal Lamjao is the only **floating national park** in India.
- Phumdi is the floating mass of entangled vegetation formed by the accumulation of organic debris and biomass with soil.
- While walking on the floating biomass, Sangai often balances itself which looks as if it is dancing on the green grassland and therefore popularly called as 'dancing deer' of Manipur.



- IUCN status : **Endangered**

## 27. Flue gas desulphurisation

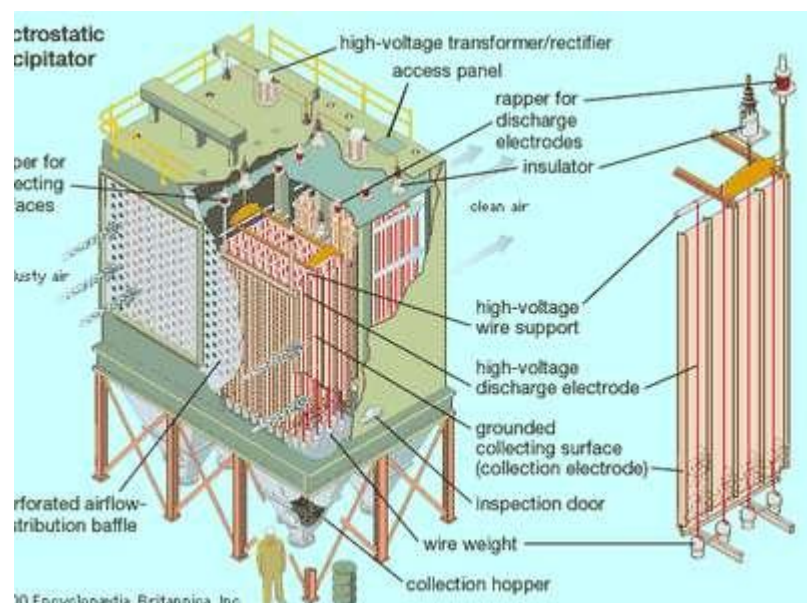
- Flue gas desulfurization (FGD) is a set of technologies **used to remove sulfur dioxide (SO<sub>2</sub>) from exhaust flue gases of fossil-fuel power plants**, as well as from the emissions of other **sulfur oxide emitting** processes.
- It seeks to remove gaseous pollutants viz. SO<sub>2</sub> from exhaust flue gases generated in furnaces, boilers, and other industrial processes due to thermal processing, treatment, and combustion.

### Methods used

- Wet scrubbing using a slurry of alkaline sorbent, usually limestone or lime, or seawater to scrub gases
- Spray-dry scrubbing using similar sorbent slurries
- Wet sulfuric acid process recovering sulfur in the form of commercial quality sulfuric acid; SNOX Flue gas desulfurization removes sulfur dioxide, nitrogen oxides and particulates from flue gases
- Dry sorbent injection systems that introduce powdered hydrated lime (or other sorbent material) into exhaust ducts to eliminate SO<sub>2</sub> and SO<sub>3</sub> from process emissions.

## 28. Electrostatic precipitators

- An electrostatic precipitator (ESP) **removes particles from a gas stream by using electrical energy to charge particles either positively or negatively.**
- The charged particles are then attracted to



collector plates carrying the opposite charge.

- An electrostatic precipitator (ESP) is defined as **a filtration device**.
- It is the commonly used device for **air pollution control**. They are used in industries like **steel plants, thermal energy plants**.
- An electrostatic precipitator has electrode wires that are maintained at several thousand volts, which produce a corona that releases electrons.
- These electrons attach to dust particles giving them a net negative charge. The collecting plates are grounded (relatively positive charge) and attract the charged dust particles.
- The velocity of air between the plates must be low enough to allow the dust to fall.
- The particles are removed from the collection surface by occasional shaking or by rapping the surface.

## 29. Enhanced Trade Partnership

- An ambitious 'Roadmap 2030' was adopted at the Summit to elevate bilateral ties to a 'Comprehensive Strategic Partnership'.
- The two Prime Ministers launched an 'Enhanced Trade Partnership' (ETP) by setting an ambitious target of more than **doubling bilateral trade by 2030**.
- As part of the ETP, **India and the UK** agreed on a roadmap to negotiate a comprehensive and balanced FTA, including consideration of an Interim Trade Agreement for delivering early gains.
- The enhanced trade partnership between India and UK will **generate several thousands of direct and indirect jobs in both the countries**.
- Enhanced Trade Partnership (ETP) which is expected to pave the way for a **future Free Trade Agreement (FTA)**.
- The ETP will address several trade barriers, including the lifting of restrictions to enable fruit producers across the UK to export apples, pears and quince to India for the first time. They will also work towards reciprocal opening up of legal services.

## 30. Financial Action Task Force (FATF):

- The Financial Action Task Force (FATF) is an **inter-governmental body** established in 1989 during the G7 Summit in Paris.
- The objectives of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for



combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.

- Its Secretariat is located at the **Organisation for Economic Cooperation and Development (OECD)** headquarters in Paris.
- Member Countries: it consists of thirty-seven member jurisdictions. India is one of the members.

**FATF has two lists:**

- Grey List: Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list.
- This inclusion serves as a warning to the country that it may enter the blacklist.
- Black List: Countries known as **Non-Cooperative Countries or Territories (NCCTs)** are put in the blacklist. These countries support terror funding and money laundering activities.
- The FATF revises the blacklist regularly, adding or deleting entries. The FATF Plenary is the decision making body of the FATF. It meets three times per year.

### 31.Nagorno-Karabakh conflict

- Nagorno-Karabakh part of **Azerbaijan**, but its population is majority **Armenian**.
- The conflict can be traced back to the pre-Soviet era when the region was at the meeting point of Ottoman, Russian and the Persian empires.
- As the Soviet Union saw increasing tensions in its constituent republics



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the 1980s, Nagorno-Karabakh voted to become part of Armenia – sparking a war that stopped with a ceasefire in 1994, mediated largely by Russia.

- Since then, Nagorno-Karabakh has remained part of Azerbaijan but is controlled by separatist ethnic Armenians backed by the Armenian government.
- Until recently, negotiations mediated by international powers had failed to deliver a peace agreement.
- The self-declaration of independence by Nagorno-Karabakh in September 1991 in the backdrop of an imminent collapse of the USSR resulted in a war between Azerbaijan and Nagorno-Karabakh – supported by Armenia.
- Since then, the **Organization for Security and Co-operation in Europe (OSCE)** Minsk Group co-chaired by the USA, Russia and France have engaged Azerbaijan and Armenia extensively to resolve the conflict. By that time, Armenia had taken control of Nagorno-Karabakh and handed it to Armenian rebels.

## 32. Extra Neutral Alcohol (ENA)

- Extra Neutral Alcohol (ENA) is a colourless food-grade alcohol that does not have any impurities. It has a neutral smell and taste, and typically contains over 95 percent alcohol by volume.
- It is derived from different sources – sugarcane molasses and grains.
- ENA is the primary raw material for making alcoholic beverages such as whisky, vodka, gin, cane, liqueurs, and alcoholic fruit beverages.
- ENA also serves as an essential ingredient in the manufacture of cosmetics and personal care products such as perfumes, toiletries, hair spray, etc.
- Given its properties as a good solvent, ENA also finds industrial use and is utilised in the production of some lacquers, paints and ink for the printing industry, as well as in pharmaceutical products such as antiseptics, drugs, syrups, medicated sprays.

## 33. Zero Budget Natural Farming

- Zero budget natural farming is a method of chemical-free agriculture drawing from traditional Indian practices.
- It was originally promoted by agriculturist Subhash Palekar, who developed it in the mid-1990s as an alternative to the Green Revolution's methods that

are driven by chemical fertilizers and pesticides and intensive irrigation. It is a unique model that relies on Agro-ecology.

- It aims to bring down the cost of production to nearly zero and return to a pre-green revolution style of farming. It claims that there is no need for expensive inputs such as fertilisers, pesticides and intensive irrigation.

### ZBNF is based on 4 pillars:

- **Jeevamrutha:** It is a mixture of fresh cow dung and aged cow urine (both from India's indigenous cow breed), jaggery, pulse flour, water and soil; to be applied on farmland.
- **Bijamrita:** It is a concoction of neem leaves & pulp, tobacco and green chilies prepared for insect and pest management, that can be used to treat seeds.
- **Acchadana (Mulching):** It protects topsoil during cultivation and does not destroy it by tilling.
- **Whapasa:** It is the condition where there are both air molecules and water molecules present in the soil. Thereby helping in reducing irrigation requirements.

## 34. Tsugaru Strait

- The Tsugaru Strait is a strait between Honshu and Hokkaido in northern Japan connecting the Sea of Japan with the Pacific Ocean.
- Western maps prior to the 20th century also referred to this waterway as the Strait of Sangar.



## 35. Memory B cells

- B cells are lymphocytes that are derived from specific types of stem cells, called **multipotent hematopoietic stem cells**, in the bone marrow.

- After they are made in the bone marrow, they need to mature and become activated. Each type of cell follows different paths to their final, mature forms.
- After formation and maturation in the bone marrow (hence the name “B cell”), the **naive B cells move into the lymphatic system** to circulate throughout the body.
- In the lymphatic system, naive B cells encounter an antigen, which starts the maturation process for the B cell.
- B cells each have one of millions of distinctive surface antigen-specific receptors that are inherent to the organism’s DNA.
- For example, naive B cells express antibodies on their cell surface, which can also be called **membrane-bound antibodies**.

## 36. Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985

- India is a signatory to the United Nations (UN) Single Convention on Narcotics Drugs 1961, the Convention on Psychotropic Substances, 1971 and the Convention on Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.
- They prescribe various forms of control aimed to achieve the dual objective of limiting the use of narcotic drugs and psychotropic substances for medical and scientific purposes as well as preventing the abuse of the same.
- The basic legislative instrument of the Government of India in this regard is the NDPS Act, 1985. The Act provides stringent provisions for the control and regulation of operations relating to narcotic drugs and psychotropic substances.
- It also provides for forfeiture of property derived from, or used in, illicit traffic in narcotic drugs and psychotropic substances.
- It also provides for death penalty in some cases where a person is a repeat offender. The Narcotics Control Bureau was also constituted in 1986 under the Act.

## 37. Long-lived greenhouse gases

Greenhouse gas	How it's produced	Average lifetime in the atmosphere	100-year global warming potential
Carbon dioxide	Emitted primarily through the burning of fossil fuels (oil, natural gas, and coal), solid waste, and trees and wood products. Changes in land use also play a role. Deforestation and soil degradation add carbon dioxide to the atmosphere, while forest regrowth takes it out of the atmosphere.	see below*	1
Methane	Emitted during the production and transport of oil and natural gas as well as coal. Methane emissions also result from livestock and agricultural practices and from the anaerobic decay of organic waste in municipal solid waste landfills.	12.4 years**	28–36
Nitrous oxide	Emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.	121 years**	265–298
Fluorinated gases	A group of gases that contain fluorine, including hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, among other chemicals. These gases are emitted from a variety of industrial processes and commercial and household uses and do not occur naturally. Sometimes used as substitutes for ozone-depleting substances such as chlorofluorocarbons.	A few weeks to thousands of years	Varies (the highest is sulfur hexafluoride at 23,500)

*This table shows 100-year global warming potentials, which describe the effects that occur over a period of 100 years after a particular mass of a gas is emitted. Global warming potentials and lifetimes come from Table 8.A.1 of the Intergovernmental Panel on Climate Change's Fifth Assessment Report, Working Group I contribution.*



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\* Carbon dioxide's lifetime cannot be represented with a single value because the gas is not destroyed over time, but instead moves among different parts of the ocean-atmosphere-land system. Some of the excess carbon dioxide is absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments.

\*\* The lifetimes shown for methane and nitrous oxide are perturbation lifetimes, which have been used to calculate the global warming potentials shown here.

## 38. Eastern Economic Forum (EEF)

- EEF was established by the decree of the President of the Russian Federation in the year 2015.
- It takes place each year in Vladivostok, a city in Russia. It serves as a platform for the discussion of key issues in the world economy, regional integration, and the development of new industrial and technological sectors, as well as of the global challenges facing Russia and other nations.
- The Forum's business programme includes a number of business dialogues with leading partner countries in the Asia-Pacific region, and with ASEAN, a key integration organization of dynamically developing nations in Southeast Asia.
- Over the years, it has emerged as an international platform for discussing the strategy for developing political, economic and cultural ties between Russia and Asia Pacific.

## 39. Ayushman Bharat Health Infrastructure Mission (ABHIM)

- It will support infrastructure development of 17,788 rural health and wellness centres (HWCs) in seven high-focus States and three north-eastern States.
- The scheme aims at **establishing comprehensive surveillance of infectious diseases, comprehensive diagnostics and treatment facilities, and comprehensive pandemic research.**

- In addition, 11,044 urban HWCs will be established in close collaboration with Urban Local Bodies. To provide a continuum of care at different levels, HWCs will be linked with the **Pradhan Mantri Jan Arogya Yojana**, for all entitled beneficiaries.
- The **hub-and-spoke model of block, district, regional and national public health laboratories** will enable effective microbial surveillance.
- Simultaneously, the network of centres will build a trained public health workforce that can perform routine public health functions while responding to a public health emergency.
- Support for 3,382 block public health units (BPHUs) in 11 high-focus States It will provide for establishment of integrated district public health laboratories in all 730 districts that will strengthen capacity for information technology-enabled disease surveillance.
- To enhance the capabilities for microbial surveillance, a **National Platform for One Health will be established**. Four Regional **National Institutes of Virology** will be established.
- Laboratory capacity under **the National Centre for Disease Control, ICMR and national research institutions** will be strengthened.
- Critical care hospital blocks, with 50-100 beds, will be established in 602 districts, to enable care for those with serious infectious diseases without disrupting other services.
- For enhancing the level of disaster response readiness, **15 health emergency operation centres and two container-based mobile hospitals will be created**. Private sector participation in service delivery may be invited by States, as per need and availability.
- The government will spend Rs 64,180 crore on the scheme from the financial year 2021-22 to 2025-26. It can **enable data-driven decentralised decision-making and people-partnered primary care at the block level** while strengthening national connectivity for delivering universal healthcare.

## 40. CAATSA

- The US law known as CAATSA is aimed at pushing back on Russian influence.
- It primarily deals with sanctions on Russian interests such as its oil and gas industry, defence and security sectors, and financial institutions, following Moscow's military intervention in Ukraine in 2014 and its alleged meddling in the 2016 US presidential election.

- The US imposed sanctions under the Countering America's Adversaries Through Sanctions Act or CAATSA on its NATO ally, Turkey, for procuring Russia's advanced S-400 missile defence system.
- India, too, has ordered the S-400 systems from Russia, despite American strategic displeasure.
- It is an indication that India is an important partner for the US.
- There has been a steady growth in bilateral cooperation in several domains.
- Both sides highlighted the commonalities and convergence, in a relationship which is unique.
- Importance of human rights, and values for the two largest democracies.

## 41. The Personal Data Protection (PDP) Bill 2019

- The genesis of this Bill lies in the report prepared by a Committee of Experts headed by **Justice B.N. Srikrishna**.
- The committee was constituted by the government in the course of hearings before the Supreme Court in the right to privacy case (**Justice K.S. Puttaswamy v. Union of India**).
- As per the bill, it is the individual whose data is being stored and processed.
- Social media companies, which are deemed significant data fiduciaries based on factors such as volume and sensitivity of data as well as their turnover, should develop their own user verification mechanism.
- An independent regulator Data Protection Agency (DPA) will oversee assessments and audits and definition making. Each company will have a Data Protection Officer (DPO) who will liaison with the DPA for auditing, grievance redressal, recording maintenance and more.
- The bill also grants individuals the right to data portability, and the ability to access and transfer one's own data.

## 42. Mudumalai Tiger Reserve (MTR)

- It is located in the **Nilgiris District of Tamil Nadu state, at the**





**tri-junction of three states, viz, Karnataka, Kerala and Tamil Nadu.**

- It has a **common boundary with Wayanad Wildlife Sanctuary (Kerala) on the West, Bandipur Tiger Reserve (Karnataka) on the North, and the Nilgiris North Division on the South and East and Gudalur Forest Division on the South West**, together forming a large conservation landscape for flagship species such as Tiger and Asian Elephant.
- The climate of Mudumalai is moderate. It experiences cold weather during the month of December or the beginning of January and hot weather is experienced during the months of March and April.
- It has tall grasses, commonly referred to as “Elephant Grass”, Bamboo of the giant variety, valuable timber species like Teak, Rosewood, etc. There are several species of endemic flora.
- Such a varied habitat is inhabited by a variety of animals which include tigers, elephants, Indian Gaur, Panther, Sambar, Spotted Deer, Barking Deer, Mouse Deer, Common Langur, Malabar Giant Squirrel, Wild Dog, Mongoose, Jungle Cat, Hyena, among others.
- This reserve has a wide variety of more than 260 species of birds. Eight per cent of bird species found in India are recorded in Mudumalai.

### 43. Juvenile Justice Boards (JJBs)

- Juveniles accused of a crime or detained for a crime are brought before the **Juvenile Justice Board (JJB)** under the Juvenile Justice (Care and Protection of Children) Act 2000 (amended in 2006).
- The aim of JJB is **to hold a child culpable for their criminal activity, not through punishment, but counselling the child to understand their actions and persuade them away from criminal activities in the future.**
- The JJB consists of a **judicial magistrate of the first class and two social workers, at least one of whom should be a woman.**
- JJB are meant to resolve cases within a four month period. Most circumstances the juvenile can be released on bail by the JJB.
- The JJB is a child-friendly space that should not be intimidating or overwhelming for the child.

### 44. Hara Bhara” initiative.

- The **Telangana government** recently launched the drone-based afforestation project named ‘Hara Bhara’.

- India's first **aerial seeding campaign** by a **Seedcopter drone at the KBR Park in Hyderabad** .
- The state Department of Information technology, Electronics and Communications and Department of Forest have partnered with Marut Drones, a Hyderabad-based drone technology startup, for the first-of-its-kind project in India.
- This project uses drones to disperse seed balls prepared by the local women and welfare communities, over thin, barren and empty forest lands to turn them into lush green abodes of trees.
- Under rapid reforestation by drones, 50 lakh trees will be planted in about 12,000 hectares of land in forests across all the 33 districts in the state.
- The campaign is expected to accelerate the mission of **Green Telangana** under the 'Haritha Haram' programme.
- The process begins with a field survey and mapping of the terrain area to understand the ecosystem and demarcate the areas needing urgent attention.
- This is used to **determine the number and species of trees that can be planted in the barren land based on the soil, climate, and other parameters.**

## 45. Purchasing Managers Index

- The Purchasing Managers Index (PMI) is a measure of the prevailing direction of economic trends in manufacturing.
- The PMI is based on a **monthly survey of supply chain** managers across 19 industries, **covering both upstream and downstream activity.**
- The value and movements in the PMI and its components can provide useful insight to business decision makers, market analysts, and investors, and is a leading indicator of overall economic activity in the U.S.
- The PMI is compiled and released monthly by the Institute for **Supply Management (ISM).**
- The PMI is based on a monthly survey sent to senior executives at more than 400 companies in 19 primary industries, which are weighted by their contribution to U.S. GDP.
- The PMI is based on five major survey areas: new orders, inventory levels, production, supplier deliveries, and employment.

- The ISM weighs each of these survey areas equally. The surveys include questions about business conditions and any changes, whether it be improving, no changes, or deteriorating.

## 46. Molnupiravir

- It belongs to a class of broad spectrum **antiviral drugs called nucleoside analogues**. They act by interfering with the function of **viral RNA (Ribonucleic Acids) polymerases** – which are enzymes that make new viral RNA in infected cells.
- RNA is a polymer of ribonucleotides and an important biological macromolecule that is present in all biological cells.
- It is principally involved in the synthesis of proteins, carrying the messenger instructions from Deoxyribonucleic acid (DNA), which itself contains the genetic instructions required for the development and maintenance of life.
- It works by causing viruses to make errors when copying their own RNA, introducing mutations that inhibit replication. It was initially invented as a **drug for the influenza virus**.
- These drugs work by preventing the process of replication of the virus inside human cells. A virus is a biological agent that can self-replicate inside a host cell.
- The infected cells by viruses may produce thousands of new copies of the original virus at an extraordinary rate.
- It alters critical enzymes that were necessary to the virus for replicating in the human body cells. As of now, the Emergency Use Authorization is awaited for the drug but currently, it can be administered as a pill in a 5-day regimen.

## 47. Microalga Uronema africanum Borge

- This is a species of microalgae that is commonly found in **Africa, Asia and Europe**. In Rangoon, Burma, it was noted to be an epiphyte, attaching itself to other algae and plants.
- The isolated algae Uronema africanum produced enzymes, hormones, and some polysaccharides which slowly degraded (the sheets), and the structural integrity of the polymer (breaks down) and disintegrates into monomers.

- **Abrasions were seen on the surface of the polyethylene sheet at different magnifications.** Low-density polyethylene is highly resistant to degradation.
- The study concluded that the microalga has initiated degradation of the polyethylene sheet within **30 days of incubation.**
- The identified algae could be used as an agent of biodegradation of plastic sheets and thus it offers a solution to **Plastic pollution in India.**

## 48. Nord Stream 2

- The Nord Stream 2 (NS2) running from **Russia to Germany** across the **Baltic Sea** has been completed.
- NS 2 is an **expansion of Russia's existing Nord Stream gas pipeline to Germany across the Baltic Sea.**
- The total capacity of two strings of Nord Stream 2 is 55 billion cubic meters of gas per year.
- NS2's manufacture began in 2016 and construction began in 2018.
- The 1,224 km, \$11-billion underwater link is the shortest, most economical and environment-friendly route to double Russia's gas export to Germany.
- European gas prices have broken records this year, edging close to an unprecedented \$1,000 per thousand cubic meters.
- Due to lack of viable alternatives to gas, low storage levels because of a severe winter and the post-COVID-19 economic surge, NS-2 is of greater significance.
- It provides **Russia with more direct access to the European gas market.**
- National governments and local authorities are set to benefit economically from investment and employment in the pipeline.

## 49. Forest Conservation Act (FCA)

- The Union Ministry of **Environment, Forests and Climate Change (MoEFCC)** has proposed an amendment to **the Forest (Conservation) Act, 1980** to bring significant changes to forest governance in India.
- To liberalise forest laws through facilitating private plantations for harvesting and exploration or extraction of oil and natural gas deep beneath forest land by drilling holes from outside the forest areas.
- It prohibits the **felling of forests for any "non-forestry" use without prior clearance by the central government.**
- The clearance process includes seeking **consent from local forest rights-holders and from wildlife authorities.**

- The Centre is empowered to reject such requests or allow it with legally binding conditions.
- In a landmark decision in 1996, the Supreme Court had expanded the coverage of FCA to all areas that satisfied the dictionary definition of a forest; earlier, only lands specifically notified as forests were protected by the enforcement of the FCA.

## 50. Katol L6 Chondrite meteorite and Bridgemanite

- The presence of mineral bridgmanite, which is the most abundant mineral in the **interior of the Earth**, within the **Katol L6 Chondrite meteorite**.
- The key findings of the study could help us understand the formation and evolution of the Earth.
- The meteorite fell near the town of **Katol in Nagpur District of Maharashtra** in 2012. This finding also adds evidence to the **Moon-forming giant impact hypothesis**.

### Katol L6

- Initial studies revealed that the host rock was mainly composed of **olivine**, an **olive-green mineral**.
- Olivine is the most abundant phase in our **Earth's upper mantle**.
- Our Earth is composed of different layers including the outer crust, followed by the mantle and then the inner core.

### Bridgmanite

- Bridgmanite consists of magnesium, iron, calcium aluminium oxide and has a **perovskite structure**. It is the **most volumetrically abundant mineral** of the Earth's interior.
- It is present in the **lower mantle (from 660 to 2700 km)**, and it is important to understand its formation mechanism to better comprehend the origin and evolution of planetary interiors.

## 51. Malegam Committee

- The **Board of Directors of the Reserve Bank of India (RBI)** constituted a Sub-Committee to study the issues and concerns on the microfinance sector.
- This SubCommittee of the Board was formed on October 15,2010, under the chairmanship of **Mr Y.H. Malegam.**
- The Committee submitted its report in December 2011. The report contains suggestions to regulate the microfinance sector, pricing of interest, increasing transparency, and reducing the problems of multiple lending and over borrowing.
- The Committee has recommended that net owned funds should be in form of **Tier I capital, and has set the minimum capital for NBFC-MFIs at Rs 15 Crore.**
- These recommendations essentially **restrict MFI promoters to corporates, or individuals backed by investors with significant capital.**

## 52. AUKUS

- Under the AUKUS alliance, the three nations have agreed to enhance the development of **joint capabilities and technology sharing, foster deeper integration of security and defence-related science, technology, industrial bases and supply chains.**
- Under the first major initiative of AUKUS, Australia would build a fleet of nuclear-powered submarines with the help of the US and the UK, a capability aimed at **promoting stability in the Indo-Pacific region.**
- The nuclear-powered submarines will give Australia naval heft in the Pacific, where China has been particularly aggressive.
- While the **US and Britain have had the capability for decades, Australia has never had an n-sub.**



## 53. RTS,S/AS01 (RTS,S) malaria vaccine

- RTS,S/AS01, trade name **Mosquirix**, is an injectable vaccine targeting **P. falciparum, the most prevalent malaria strain in Africa.**
- It is the first and only vaccine to show partial protection in young children. It was developed by **British drugmaker GlaxoSmithKline in 1987.**
- The active substance in **Mosquirix** is made up of proteins found on the surface of the Plasmodium falciparum parasites (PFP).
- RTS,S aims to trigger the immune system to defend against the first stages of malaria when the PFP enters the human host's bloodstream through a mosquito bite and infects liver cells. It also helps protect against infection of **the liver with the Hepatitis B virus.**

## 54. Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

- The CPTPP is a **Free Trade Agreement (FTA) between 11 countries around the Pacific Rim** which are : **Canada, Mexico, Peru, Chile, New Zealand, Australia, Brunei, Singapore, Malaysia, Vietnam and Japan.**
- After the US withdrew from negotiations of Trans-Pacific Partnership (TPP), the remaining 11 participants scrambled to amend the text of the agreement, and the newly renamed **CPTPP** was signed in March 2018. It came into force in December 2018.
- The CPTPP **removes 99% of tariffs on goods and services**, just like the original TPP did.
- The CPTPP covers a broad range of goods and services. These include **financial services, telecommunications, and food safety standards.**
- All countries agreed to **cut down on wildlife trafficking. That helps elephants, rhinoceroses, and marine species the most.**
- It prevents environmental abuses, such as **unsustainable logging and fishing.** Countries that don't comply will face trade penalties.
- **India did not join CPTPP** as it seeks to place greater labor and environmental standards on its other partners and CPTPP draft includes narrowly detailed qualifications on standards for investment protection, provisions to protect the host state's right to regulate, and the imposition of detailed transparency requirements.

## 55. United Nations Brasilia Declaration

- The declaration was signed at the Second Global High-Level conference on **Road Safety held in Brazil.**
- Through the Brasilia Declaration Countries plan to achieve **the Sustainable Development Goal 3.6: By 2020**, halve the number of global deaths and injuries from road traffic accidents.
- United Nations has also declared 2010-2020 as the decade of action for Road Safety.

### The main points of the Brasilia Declaration are:

- Countries should form transport policies in order to favor more sustainable modes of transport such as walking, cycling and using public transport.
- It highlights strategies to **ensure the safety of all road users.**
- By improving laws and enforcement.
- Making **roads safer through infrastructural modifications.**
- Ensuring that vehicles are equipped with **life-saving technologies.**
- Enhancing **emergency trauma care systems.**

## 56. United Nations Economic and Social Commission for Asia and the Pacific

- It is the **principal body** for coordination, policy review, policy dialogue and recommendations on economic, social and environmental issues, as well as implementation of internationally agreed development goals.
- It has 54 members, elected by the General Assembly for overlapping three-year terms.
- It is the **UN's central platform for reflection, debate and innovative thinking on sustainable development.**
- Each year, ECOSOC structures its work around an annual theme of global importance to sustainable development. This ensures focused attention, among ECOSOC's array of partners and throughout the UN development system.
- It coordinates the work of the 14 UN specialized agencies, ten functional commissions and five regional commissions, receives reports from nine UN funds and programmes and issues policy recommendations to the UN system and to member states.



### Important bodies under the purview of ECOSOC:

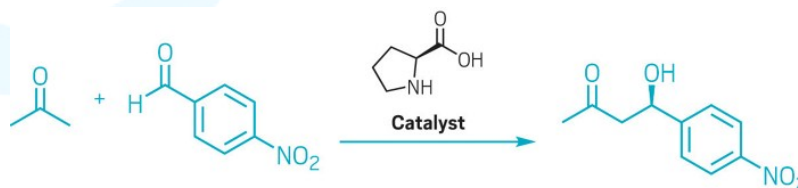
- International Labour Organization (ILO)
- Food and Agriculture Organization (FAO)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- World Health Organization (WHO)
- Bretton Woods Twins (World Bank Group and International Monetary Fund)
- United Nations Children's Fund (UNICEF)
- Apart from these there are various Functional and Regional Commissions, Standing Committees, Ad Hoc and Expert Bodies as well.

## 57. Asymmetric organocatalysis

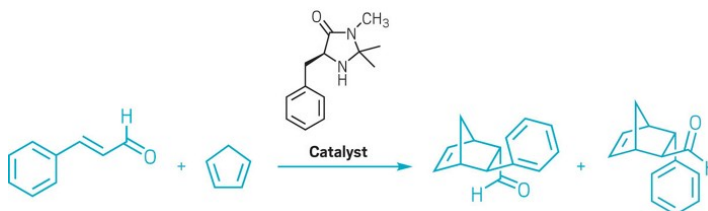
### Organocatalysts

### Cryogenics.

- Asymmetric organocatalysis is a widely used technique and especially important to the drug discovery process.



- Biologically active molecules are often chiral, and



organocatalysts provide a way to make candidate drug compounds quickly and efficiently.

- Asymmetric organocatalysis uses **small organic molecules as catalysts** instead of traditional catalysts such as enzymes or metals.
- These molecules are able to catalyze reactions to selectively form one enantiomer of a particular compound—meaning one version of two mirror-image molecules.
- Organic molecules for the metal catalysts, making the synthesis cleaner and more environmentally friendly; metal catalysts can be toxic to people or the environment.
- This advantage is especially **important in making medicines, because any traces of metals need to be removed from the final drug and the metal-removal process is both expensive and time consuming.** "The

organic catalysts really provide a way to do that chemistry in a more green, sustainable fashion.”.

## 58. G-Sec Acquisition Programme (GSAP)

- The Reserve Bank of India (RBI) has decided to halt its bond-buying under the G-Sec Acquisition Programme (GSAP).
- The GSAP had succeeded in ensuring adequate liquidity and stabilising financial markets.
- Coupled with other liquidity measures, it facilitated congenial and orderly financing conditions and a conducive environment for the recovery.
- The G-Sec Acquisition Programme (G-SAP) is basically an **unconditional and a structured Open Market Operation (OMO), of a much larger scale and size.**
- G-SAP is an OMO with a ‘distinct character’.
- The word ‘unconditional’ here connotes that RBI has committed upfront that it will buy G-Secs irrespective of the market sentiment.

## 59. Operation Twist (OT)

- Operation Twist is a **monetary policy** strategy used by central banks aimed at **stimulating economic growth through lowering long-term interest rates.**
- This is achieved by selling near-term Treasuries to buy longer-dated ones.
- Operation Twist effectively "twists" the ends of the yield curve where short-term yields go up and long-term interest rates drop simultaneously.
- Operation Twist was first attempted in 1961, and again in the years following the 2008-09 financial crisis
- The Reserve Bank of India announced to carry out US-style 'Operation Twist' to boost the economy by bringing down long-term interest rates for the first time under **Open Market Operations (OMOs).**

## 60. Graded Response Action Plan

- In pursuant to the Supreme Court’s order in the matter of **M. C. Mehta vs. Union of India (2016)** regarding air quality in the National Capital Region of Delhi, a Graded Response Action Plan has been prepared for

implementation under different **Air Quality Index (AQI)** categories namely, Moderate & Poor, Very Poor, and Severe.

- A new category of **“Severe+ or Emergency”** has been added.
- The Plan was notified by the **Ministry of Environment, Forests & Climate Change** in 2017.
- It institutionalised measures to be taken when air quality deteriorates.
- The plan is incremental in nature – therefore, when the air quality moves from ‘Poor’ to ‘Very Poor’, the measures listed under both sections have to be followed.
- It prevents **PM10 and PM2.5** levels from going beyond the ‘moderate’ national AQI category.
- Till 2020, the Supreme Court-appointed **Environment Pollution (Prevention & Control) Authority (EPCA)** used to order States to implement GRAP measures.
- The EPCA was dissolved and replaced by the **Commission for Air Quality Management (CAQM) in 2020**.
- CAQM is a statutory mechanism to coordinate and oversee diverse efforts to improve air quality in **Delhi, Punjab, Haryana, Rajasthan and UP**, with the underlying remedial approach.

## 61. LIBOR

- LIBOR is the **benchmark interest rate** at which major global banks lend to one another.
- LIBOR is administered by **the Intercontinental Exchange**, which asks major global banks how much they would charge other banks for short-term loans.
- The rate is calculated using the **Waterfall Methodology, a standardized, transaction-based, data-driven, layered method**.
- LIBOR has been subject to manipulation, scandal, and methodological critique, making it less credible today as a benchmark rate.
- LIBOR is being replaced by the **Secured Overnight Financing Rate (SOFR)** on June 30, 2023, with phase-out of its use beginning after 2021.

## 62. District Mineral Foundation Trust (DMFT)

- District Mineral Foundation (DMF) is a trust set up as a **non-profit body**, in those districts affected by the mining works, to work for the interest and benefit of persons and areas affected by mining related operations.

- It is funded through the contributions from the holder of **major or minor mineral concessions** in the district as may be prescribed by the Central or State Government.
- The objective of District Mineral Foundation is to work for **the interest of the benefit of the persons and areas affected mining related operations** in such manner as may be prescribed by the State Government.

## 63. Strategic Trade Authorisation-1

- The United States has designated India as Strategic Trade Authorization-1 (STA-1) country that will **allow India to buy highly advanced and cutting-edge sensitive technologies from America.**
- STA allows for license exceptions with regards to exports from the US.
- This type of US government authorisation allows a certain item to be exported under defined conditions without a transaction-specific license.
- Currently there are 36 countries on the STA-1 list.
- **India is the only South Asian country** to be on the list. Till recently, India was classified as an STA-2 country along with seven others.
- Other Asian countries designated as STA-1 are **Japan and South Korea.**
- STA-1 provides India with greater supply chain efficiency, both for defence, and for other high-tech products.
- The status eases export controls for high technology product sales to India, granting it the same access as **NATO allies — Australia, Japan and South Korea.**
- Under STA-1, India and US have reached an understanding under which India will receive **license-free access to a wide range of dual-use technologies in conjunction** with the steps that India has committed to take to advance its export control objectives.
- STA-1 treatment will expand the scope of technology exports subject to **Export Administration Regulations (EAR)** that can be made to India without individual licenses.
- It will further **enhance the bilateral defence trade relationship** and result in a greater volume of US exports to India.
- India's inclusion is beneficial mostly for the purposes of increasing the speed of sale of high-tech defence and non-defence products that are otherwise subjected to strict controls and licensing.

## 64. S-400

- It is a **mobile, Surface-to-Air Missile system (SAM)** designed by **Russia**.
- It is the most dangerous operationally deployed **Modern Long-Range SAM (MLR SAM)** in the world, considered much ahead of the US-developed **Terminal High Altitude Area Defense system (THAAD)**.
- It integrates a multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre.
- It is capable of firing three types of missiles to create a layered defence.
- The system can engage **all types of aerial targets including aircraft, unmanned aerial vehicles (UAV) and ballistic and cruise missiles within the range of 400km, at an altitude of up to 30km.**
- **The system can track 100 airborne targets** and engage six of them simultaneously.

## 65. Malabar Exercise

- Malabar exercise is being conducted in the Bay of Bengal from 12 October to 15 October 2021.
- This is the Second Phase of the Malabar exercise. **It will build synergic coordination between the participating nations and also enhance the interoperability** that was developed during the 'First Phase of the exercise'.
- First phase of this exercise was conducted from August 26-29, 2021 in the Philippines sea.
- Exercise will also **focus on advanced surface & anti-submarine warfare exercises, weapon firings and seamanship evolutions.**
- In the maritime exercise, INS Ranvijay, INS Satpura as well as P8I Long Range Maritime Patrol aircraft from the Indian Navy will participate.

## 66. Extended Producer Responsibility (EPR)

- Extended Producer Responsibility (EPR) means the responsibility of a producer for the environmentally sound management of the product (plastic packaging) until the end of its life.
- India had first introduced **EPR in 2011 under the Plastic Waste (Management and Handling) Rules, 2011 and E-Waste Management and Handling Rules, 2011.**

- The draft specifies the quantity of waste that will have to be managed by producers, importers and brand owners who generate plastic packaging waste in India.
- Earlier, the Ministry had notified the Plastic Waste Management Amendment Rules, 2021. These rules prohibit specific single-use plastic items which have **“low utility and high littering potential” by 2022.**

### **Categorization of Plastic Packaging:**

#### **Rigid Plastic:**

- They are plastic products that do not give easily when squeezed. Many are large, bulky items like lawn chairs, buckets, toddler toys etc.

#### **Flexible Plastic:**

- It includes packaging of single layer or multilayer (more than one layer with different types of plastic), plastic sheets and covers made of plastic sheet, carry bags (including carry bags made of compostable plastics), plastic sachet or pouches.

#### **Multi-Layered Plastic Packaging:**

- They are the plastics which have at least one layer of plastic and at least one layer of material other than plastic.

#### **Ineligible plastics for EPR**

- Only a fraction of plastic that cannot be recycled will be eligible to be sent for end-of-life disposal such as **road construction, waste to energy, waste to oil and cement kilns.**
- Only methods prescribed by the **Central Pollution Control Board** will be permitted for their disposal.

## **67 Kunming biodiversity fund**

- The Kunming Declaration was adopted that **demonstrates global commitment for an ambitious post-2020 global biodiversity framework.**
- The Declaration addresses key elements needed for a successful post-2020 framework:
  - The mainstreaming of biodiversity across all decision-making;
  - Phasing out and redirection of harmful subsidies;
  - Strengthen the rule of law;
  - Recognizing the full and effective participation of indigenous peoples and local communities and

- Ensuring an effective mechanism to monitor and review progress; among others.

- The summit aims to **establish a new accord setting out targets for 2030 and 2050.**
- China's pledge is far below the \$4 billion committed by Britain for global conservation projects over the next five years or France's commitment to spend 30 percent of its climate finance on biodiversity.
- China will take the lead in establishing the Kunming biodiversity fund with a capital contribution of 1.5 billion yuan (\$233 million) to support the cause of biodiversity conservation in developing countries
- A key proposal being debated at the conference is the "30 by 30" agenda that would afford **30 percent of the Earth's land and oceans protected status by 2030.**

## 68. North Atlantic Treaty Organization (NATO)

- The North Atlantic Treaty Organization is a **military alliance between the United States, Canada, and their European allies.**

- It was formed in the wake of **World War II** to keep the peace and encourage political cooperation on both sides of the Atlantic Ocean.

- The North Atlantic Treaty Organization (NATO) is a 30-member alliance formed in the wake of **WWII with the goal of protecting democratic freedom.**

- In addition to the core NATO alliance, NATO has partnerships with countries in other regions.





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- NATO's mission is **to protect the freedom of its members and the stability of their regions.** Its targets include **weapons of mass destruction, terrorism, and cyber-attacks.**
- NATO is funded by its members. The United States contributes roughly three-fourths of NATO's budget.

