

**WEEKLY CURRENT AFFAIRS MAGAZINE for**



# U.P.S.C. - C.S.E.

## FEBRUARY-VOL-II-2021

08 February to 15 February



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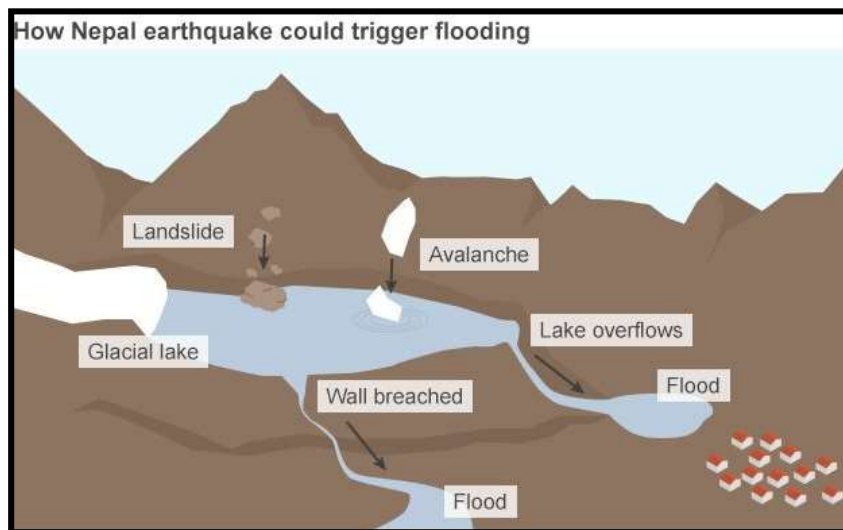


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*Success is born of action...*

## Topic 1:GLACIAL OUTBURST FLOOD / AVALANCHE



A glacial lake burst, a cloud burst or an avalanche, the impact of climate change or “development” — scientists aren't sure what triggered the sudden surge of water close to Chamoli in Uttarakhand Sunday morning that briefly raised fears of a repeat of the 2013 disaster within the state. Glacial Lake Outburst Flood

- A glacial lake outburst flood (GLOF) could be a release of meltwater from a moraine– or ice-dam glacial lake due to dam failure.
- GLOFs usually result in often flooding downstream, with major geomorphic and socioeconomic impacts.
- GLOFs have 3 main features: They involve sudden (and sometimes cyclic) releases of water. They tend to be fast events, lasting hours to days. They result in large downstream river discharges (which often increase by an order of magnitude).

### **Direct Causes**

- The following direct causes of glacial lake outburst floods were documented:
  - Rapid slope movement into the lake
  - Heavy rainfall/snowmelt

- Cascading processes (flood from a lake located upstream)
- Earthquake
- Melting of ice incorporated in dam/forming the dam (including volcanic activity triggered jökulhlaups)
- Blocking of subsurface outflow tunnels (applies solely to lakes without surface
- outflow or lakes with a mixture of surface and subsurface outflow)
- Long-term dam degradation

### **Glacial Lakes**

There are two main settings in which glacial lakes form:

- Behind moraine dams
- Behind ice dams.

### **Moraine Dammed Lakes**

- When a glacier retreats, it will leave behind a large impression within the ground that fills with water, turning it into a lake. This is generally referred to as a moraine.
- Moraine-dammed lakes type during times of glacier retreat from a earth.
- As a glacier margin retreats, water collects within the topographic low between the ice front and therefore the abandoned frontal and/or lateral moraine.
- These lakes will be impounded by an unstable pile of debris and buried ice.
- Most existing moraine-dammed lakes were fashioned once mountain glaciers began to retreat from massive moraine ridges constructed during the small ice age.

### **Ice Dammed Lakes**

- In contrast to moraine-dammed lakes, ice-dammed lakes type once drainage is blocked by a glacier that advances or becomes thicker.

- Consequently, ice-dammed lake growth is closely related to glacier mass balance and climate.
- Ice-dammed lakes type where a glacier blocks the drainage of meltwater.

## **AVALANCHE**


- Avalanche is a speedy downslope movement of a large detached mass of snow, ice, and associated debris like rocks and vegetation.
- Small avalanches, or Sluffs, occur in massive numbers, whereas massive avalanches that may encompass slopes a kilometer or more in length with millions of tons of snow, occur infrequently but cause most of the damage.
- Humans are exposed to the threat of sliding snow for as long as they need inhabited mountainous regions.

### **Types of Avalanches:**

- Loose snow avalanches-formed in snow with very little internal cohesion among individual snow crystals.
- Slab avalanches-Originate in snow with decent internal cohesion to modify a snow layer, or layers, to react automatically as one entity.
- Wet snow avalanches-These move a lot of slowly than dry ones and are seldom accompanied by mud clouds.
- Direct action avalanches –These are the immediate results of one snowstorm. they typically involve solely contemporary snow.
- Climax avalanches-Result of a series of snowstorms or a fruits of weather influences. Their fall isn't essentially related to a current storm or weather scenario.

## Topic 2: CULLING OF ANIMALS AND WPA 1972

### *Importance for Prelims: National Legislations*



<p><b>BIHAR</b>   Wanted nilgai and wild boar to be declared vermin in several parts of the state for five years</p> <p><b>REASON</b>   The govt has been distributing ₹40-50 lakh as compensation for crop loss every year</p> <p><b>STATUS</b>   Notified</p>	<p><b>UTTARAKHAND</b>   Wanted wild boar declared vermin, primarily in the hill districts, for a year</p> <p><b>REASON</b>   Crop loss, farmers are migrating because of it</p> <p><b>STATUS</b>   Notified</p>	<p><b>HIMACHAL PRADESH</b>   Wanted rhesus macaque/monkeys to be declared vermin, with permission to cull them in parts of Chamba, Kangra, Una, Bilaspur, Shimla, Sirmour, Kullu, Hamirpur, Solan and Mandi</p> <p><b>REASON</b>   674 reported attacks on humans by monkeys; relief of ₹28 lakh has been disbursed from the state exchequer</p> <p><b>STATUS</b>   Notified</p>
<p><b>GUJARAT</b>   Wants nilgai to be declared vermin for a year</p> <p><b>REASON</b>   Population of nilgai increased from 41,644 in 1995 to 1,86,770 in 2015</p> <p><b>STATUS</b>   Under consideration</p>	<p><b>MAHARASHTRA</b>   Wants nilgai and wild boar declared vermin for a year</p> <p><b>STATUS</b>   Both the blue bull and wild boar have been declared wild under Schedule III of The Indian Wildlife (Protection) Act, 1972. MoEFCC had issued an advisory in 2014 to states saying problem animals could be put in Schedule V of WLPA so that their killing is out of the purview of regulations</p>	

Maharashtra on Sunday culled 40,000 poultry birds in Navapur in Nandurbar district, 340 kilometer north of Mumbai, after cases of avian flu or bird flu were confirmed within the four-layer poultry farms within the region. Culling and wildlife Protection Act

- Wildlife Protection Act divide species into 'schedules' ranked from I to V. Schedule I members are the best protected, in theory, with severe punishments meted out to those who hunt them.
- Animals like Wild boars, nilgai and rhesus monkeys are Schedule II and III members — additionally protected, but can be afraid under specific conditions like threat to human life.
- Animals like Crows and fruit bat fall in Schedule 5, the vermin class.

- Section 11(1)a of the wildlife Protection Act (WPA) authorizes chief wildlifewarden to allow hunting of any problem wild animal only if it cannot be captured,tranquillized or translocated.
- For wild animals in Schedule II, III or IV, chief wildlife warden orauthorized officers will allow their in a in an exceedingly specified area if theyhave become dangerous to humans or property (including standing crops on anyland).
- Section 62 of Act empowers Centre to declare wild animals other than Schedule I& II to be vermin for specified area and period.

### Topic 3:PM URJA GANGA PROJECT

*Importance for Prelims: Economy*



Prime Minister Narendra Modi dedicated to the nation many infrastructure projects within the oil and gas sector in Haldia, including the ambitious 348-km Dobhi-Durgapur natural gas pipeline built by government-owned GAIL.

- The 348-kilometer pipeline from Dobhi in state to Durgapur in west bengal is part of the Pradhan Mantri Urja Ganga project to take environment-friendly natural gas to India's eastern elements that hereto was left untouched by the advantages of gas-based economy..

#### **About the Pradhan Mantri Urja Ganga Project:**

- It may be a gas pipeline project that aims to provide cooking gas to people.
- It was launched in 2016 in Varanasi and later extended to people within

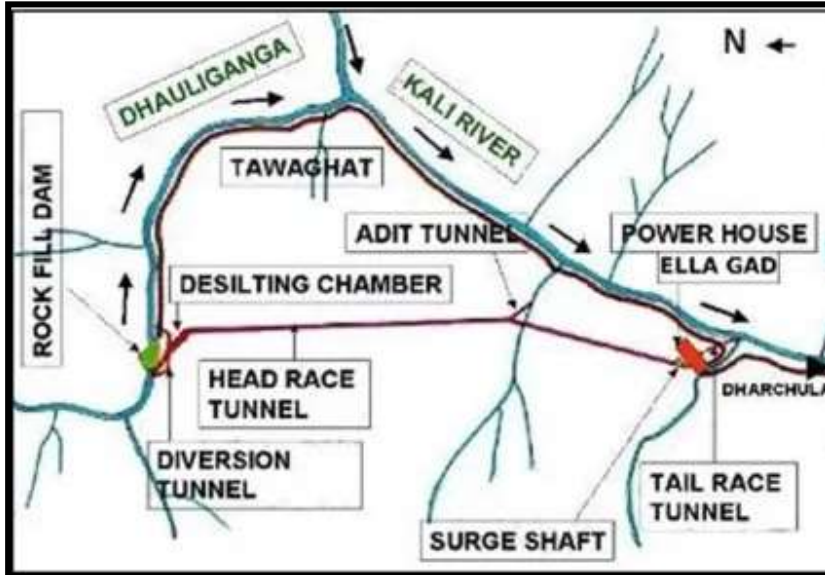


the states of Bihar, west bengal, Odisha and Jharkhand.

- The government is taking the initiative to attach the eastern states with thenational gas grid.
- The total length of the pipeline under the Pradhan MantriUrja Ganga Project isapproximately 3,384 km, out of that 766 km of pipeline is in Odisha state and thebalance 2,618 kilometer is within the states of uttar pradesh, Bihar, Jharkhand, province &Assam.
- The project won't just supply CNG to automobiles and cooking gas to householdkitchens in cities on the route, but also to industries to meet their feedstock orfuel demand.
- The project is being implemented by GAIL.

## Topic 4:DHAULIGANGA

### *Importance for Prelims: Geography*



Water Levels Surge Up InDhaulti Ganga once more after glacier Burst.

- Dhauligangaalso referred to as Dhaulti river is one of the six supply streams of the gangariver. It originates from DeovanHimani and flows on gahrwal division ofuttarakhand.
- It rises at an altitude of 5070 metres in Niti Pass at chamoli district of uttarakhand.
- It meets Alaknandariver at Vishnu Prayagat the bottom of JoshimathMountains.
- Major hydroelectric projects placed at Tapovan, Maleri Jhelum, Jhelum Tamak inchamoli district.

## **Topic 5: INDIAN CYBER COORDINATION CENTRE**

### ***Importance for Prelims: Governance***

Cybercrime cell of the Ministry of Home Affairs (MHA) has started a new programme under which citizens can participate as volunteers to identify, flag and report to the Government illegal and unlawful content, including child pornography, rape, terrorism, radicalisation and anti-national activities.

- MHA's Indian Cyber Crime Coordination Centre (I4C) will act as a nodal point while volunteers can register themselves with their states or union territories to act as cyber volunteers.

### **Indian Cyber Crime Coordination Centre:**

- It will be set up under the newly created Cyber and Information Security (CIS) division of the MHA.

### **It has seven components:**

- National Cyber Crime Threat Analytics Unit
- National Cyber Crime Reporting Portal
- National Cyber Crime Training Centre
- Cyber Crime Ecosystem Management Unit
- National Cyber Crime Research and Innovation Centre
- National Cyber Crime Forensic Laboratory Ecosystem
- Platform for Joint Cyber Crime Investigation Team.

### **Functions:**

The I4C will assist in centralising cyber security investigations, prioritise the development of response tools and bring together private companies to contain the menace.

### **Objectives:**

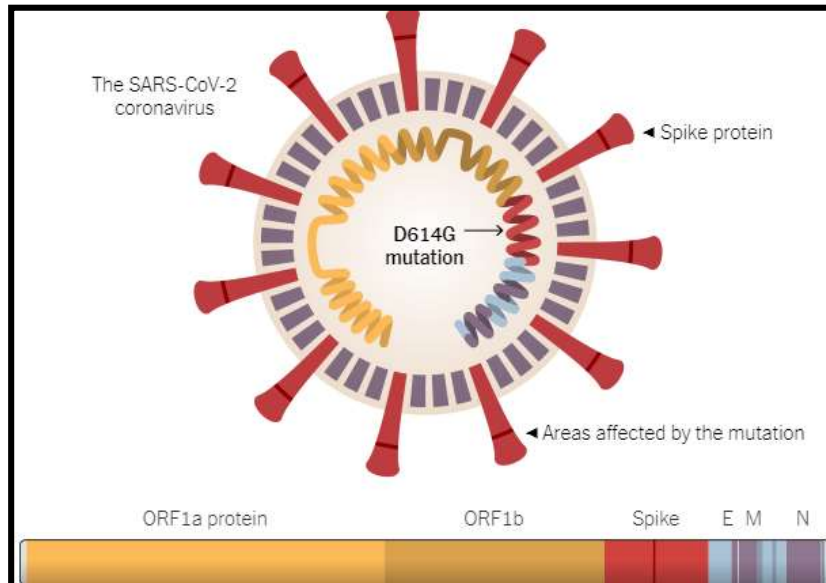
- To act as a nodal point in the fight against cybercrime Identify the research problems/needs of LEAs and take up R&D activities in developing new technologies and forensic tools in collaboration

with academia /research institutes within India and abroad.

- To prevent misuse of cyber space for furthering the cause of extremist and terrorist groups. Suggest amendments, if required, in cyber laws to keep pace with fast changing technologies and International cooperation.
- To coordinate all activities related to implementation of Mutual Legal Assistance Treaties (MLAT) with other countries related to cybercrimes in consultation with the concerned nodal authority in MHA.

## Topic 6:D614G MUTANT VIRUS

### *Importance for Prelims: Science & technology*



A team of scientists at the National Institute of biomedical genomics (NIBMG) in Kalyani has pointed to a biological reason behind the slower spread of the D614G mutant coronavirus in Asia compared to Europe and also the USA. D614G mutation.

- When the virus enters an individual's body, it aims at making copies of itself. When it makes an error during this copying method, we get a mutation. In this case, the virus replaced the aspartic acid (D) within the 614th position of the amino acid with glycine (G). hence the mutation is named the D614G.
- D614G Mutation: This particular mutation aided the virus in attaching more efficiently with the ACE2 receptor within the human host, thereby creating it more successful in getting into a human body than its predecessors.
- D614G showed raised infectivity however it also displayed greater ability at attaching itself to the cell walls inside an individual's nose and throat, increasing the viral load.
- This mutated style of the virus was first known in China and so in

Europe.

- Later it spread to alternative countries just like the U.S. and Canada and was eventually reported in India. Mutation
- A mutation means that a modification within the genetic sequence of the virus.
- In the case of SARS-CoV-2, that is a ribonucleic acid (RNA) virus, a mutation means that a modification within the sequence during which its molecules are arranged.
- SARS-CoV-2 is that the virus that causes Covid-19.
- RNA is a very important biological supermolecule that's present in all biological cells.
- Principally concerned within the synthesis of proteins, carrying the courier instructions from deoxyribonucleic acid (DNA), that itself contains the genetic instructions required for the development and maintenance of life.
- DNA is an organic chemical that contains genetic data and directions for protein synthesis. It's found in most cells of each organism.
- A mutation in a ribonucleic acid virus often happens once the virus makes a slip whereas it is creating copies of itself.
- Only if the mutation leads to a major modification within the protein structure will the course of a disease be altered.

## Topic 7: UNHRC

### *Importance for Prelims: International Organisations*



The US announced plans Monday to re-engage with the United Nations human rights council (UNHRC), from which Donald Trump withdrew almost three years ago, as the Biden administration reverses another move away from multilateral organizations and agreements.

- The United Nations Human Rights Council (UNHRC) is a United Nations body whose mission is to promote and protect human rights around the world.
- The UNHRC has 47 members elected for staggered three-year terms on a regional group basis from 5 groups.
- To become a member, a country must receive the votes of at least 96 of the 191 states of the UN General Assembly (an absolute majority).
- The members are elected for a period of three years, with a maximum of two consecutive terms.
- In electing Council members, the resolution provides that General Assembly members “shall take into account the candidates’ contribution to the promotion and protection of human rights and their voluntary pledges and commitments made thereto.”
- The UNHRC holds regular sessions three times a year, in March, June, and September.

#### **Universal Periodic Review:**

- The Universal periodic review (UPR) mechanism reviews all 192 UN member states every four years to “ensure universality of coverage and equal treatment of all Member States.”

**Special Procedure :**

- The special procedures of the Human Rights Council are independent human rights experts with mandates to report and advise on human rights from a thematic or country-specific perspective.
- The system of Special Procedures is a central element of the United Nations human rights machinery and covers all human rights: civil, cultural, economic, political, and social.

**Special Rapporteur:**

- The titles Special Rapporteur, Independent Expert, and Working Group Member are given to individuals working on behalf of the United Nations (UN) within the scope of “special procedure” mechanisms.



## Topic 8:GEO THERMAL ENERGY PROJECT

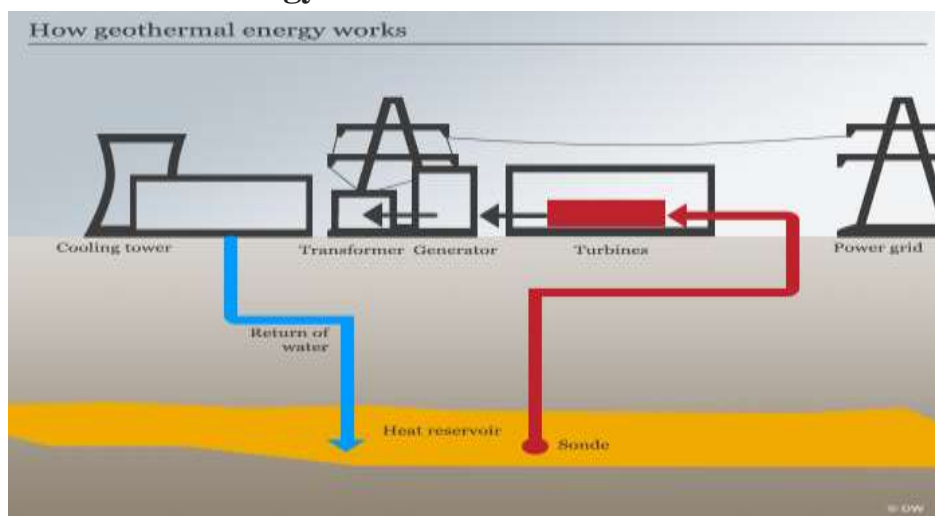
### *Importance for Prelims: Economy*

### **ONGC to hold out India's first geothermal energy project in Ladakh.**

This MoU, that was signed within the presence of Ladakh lieutenant governor, is the first step towards making a Carbon Neutral Ladakh, a clarion call given by Prime Minister of India on independence day 2020, ONGC aforesaid during a statement. The project are implemented in 3 phases.

- Phase-1 involves exploratory-cum-production drilling of wells up to 500 metres depth and fixing of a Pilot Plant of up to 1 MW power capability.
- Phase-II would involve deeper and lateral exploration of geothermal reservoir by drilling of optimal number of wells and setting up of a higher capacity Demo Plant and preparing a detailed Project Report.
- Phase-III would involve commercial development of the geothermal plant, the energy company said.

### **Geothermal Energy**



- Geothermal Energy is that the energy obtained from heat stored in the earth crust and used for various purposes like electricity generation or direct heating applications.
- Geothermal energy is essentially stored in earth crust up to depth of 3 to 4 kilometer.

### **Geothermal Power Plants.**

- Hot water and steam from deep underground may be piped up through

undergroundwells and wont to generate electricity in a very power plant.  
three differing kinds ofgeothermal power plants exist:

- **Dry steam plants:** Hot steam is piped directly from geothermal reservoirs intogenerators within the power plant. The steam spins turbines, that generate electricity.
- **Flash steam plants:** Water that's between three hundred and 700 degrees fahrenheit (148and 371 degrees Celsius) is brought up through a well. some of the water turns tosteam, that drives the turbines. once the steam cools it condenses back into waterand is came back to the ground.
- **Binary cycle plants:** Moderately hot energy water is versed a heatexchanger, wherever its heat is transferred to a liquid (such as isobutene) that boils at alower temperature than water. once that fluid is heated it turns to steam, whichspins the turbines. Binary cycle plant is appropriate for India as a result of India may be a lowgeothermal region with low heat total heat.

## Topic 9: WORLD'S SMALLEST REPTILE

### *Importance for Prelims: Environment*



- A chameleon discovered within the island country of Madagascar by scientists from Germany and Madagascar is also the world's smallest adult reptile. The discovery has been reported within the journal Scientific Reports.
- The team found one male and one female of the species, named *Brookesia nana*, during an expedition in 2012. The male includes a length (snout to vent) of 13.5 mm and a total length of 21.6 mm once the tail is included.
- Previously, the chameleon species *Brookesia micra* was thought to be the smallest.
- The average length of adults of this species is 16 mm (29 mm with tail), whereas the smallest man has been recorded at 15.3 mm.
- Reptiles come in a good size range. The longest, the reticulated python, at 6.25 m is almost as long as 289 *Brookesia nanas*. Island effect
- Madagascar is home to tiny lizards and additionally the smallest species of snakes.
- One possible reason for such small species is that the so-called "island

effect” that causes species on small islands to get smaller.

## **Topic 10: MEGHAMALAI TIGER RESERVE**

### ***Importance for Prelims: Environment***



The Srivilliputhur Meghamalai Tiger Reserve is the fifth tiger reserve in Tamil Nadu. In a government order issued on Monday, Forests Secretary Sandeep Saxena announced the creation of the reserve.

- The National Tiger Conservation Authority (NTCA) has approved the creation of the fifth tiger reserve in Tamil Nadu.
- Highlights The tiger reserve will surround the Meghamalai and the Srivilliputhur Grizzled Squirrel Wildlife Sanctuaries within it.
- The activists were demanding for the creation of a tiger reserve linking the two sanctuaries in the adjoining areas of Periyar Tiger Reserve in Kerala.
- They also demand to connect the tiger reserve with the Tirunelveli Wildlife Sanctuary and the Kalakkad Mundanthurai Tiger Reserve.
- The environmentalists seek to make a contiguous corridor for the tigers to move.
- The tiger reserve will spread to 1.48 lakh hectares of land comprising of the Srivilliputhur Grizzled Squirrel Wildlife Sanctuary, Meghamalai Wildlife Sanctuary and Tirunelveli Wildlife Sanctuary. Srivilliputhur Wildlife Sanctuary.
- It is also known as the Grizzled Squirrel Wildlife Sanctuary (GSWS).
- The sanctuary was established in the year 1988 with the objective of protecting the Near threatened grizzled giant squirrel. It is bordered by the Periyar Tiger Reserve in the southwest. The sanctuary is also called as

one of the best-preserved forests lying south of the Palghat Gap.

### **National Tiger Conservation Authority (NTCA)**

- It was established in December 2005. The authority was set up on the recommendations of Tiger Task Force constituted by the Prime Minister of India with the objective of protecting the tigers.
- It was established under section 38 L (1) of the Wildlife (Protection) Act, 1972.
- The authority gets the power from section 38 O (1) of the act of 1972.

## Topic 11:VIJAYANAGAR

### *Importance for Prelims: History*



Karnataka got its thirty first district with the state government on monday issuing an official gazette notification carving out Vijayanagara district from the mine-rich Ballaridistrict.

### **About Vijaynagar Empire**

- Vijayanagara or “city of victory” was the name of each a town and an empire.
- The empire was based in the fourteenth century (1336 AD) by Harihara and Bukka of Sangama dynasty.
- They made Hampi because the capital city. In 1986, Hampi was declared a World Heritage website by unesco.
- It stretched from the river Krishna within the north to the extreme south of the peninsula.

Vijayanagar Empire was ruled by four important dynasties and they are:

- Sangama
- Saluva
- Tuluva
- Aravidu
- Krishnadevaraya (ruled 1509-29) of the Tuluva dynasty was the most

noted ruler of Vijayanagar. His rule was characterised by growth and consolidation.

- He is credited with building some fine temples and adding impressive gopurams to many important south Indian temples. He also based a residential area township near Vijayanagar known as Nagalapuram when his mother.
- He composed a work on statecraft in Telugu known as the Amuktamalyada.

## **Topic 12: E COMMERCE REGULATIONS**

### ***Importance for Prelims: Economy***

The Centre plans to issue a clarification on the foreign direct investment (FDI) policy for the e-commerce sector within the wake of investigations into some foreign players' operations following complaints regarding malpractices, consistent with Commerce and Industry Minister Piyush Goyal.

- The government had sought information from the online marketplaces as a part of a probe into 'certain complaints from consumers and small retailers regarding certain practices of e-commerce companies'. Stressing that e-commerce platforms could only act as a service supplier, the minister warned players 'who break the law' that they would need to correct their business practices at the earliest.

### **FDI tips for e-Commerce**

- In India 100% FDI is permitted in B2B e-commerce, however, No FDI is permitted in B2C (Inventory primarily based) e-commerce.
- 100% FDI under automatic route is permitted within the marketplace model of e-commerce, while FDI is not permitted in inventory primarily based model of e-commerce.

### **Marketplace and Inventory-Based Model**

- Marketplace primarily based model of e-commerce means that providing information Technology platform by an e-commerce entity on a digital & electronic network to act as a facilitator between the buyer and seller.
- In a marketplace model, the e-commerce firm isn't allowed to directly or indirectly influence the sale worth of products or services and is needed to offer a level playing field to any or all vendors.
- Inventory primarily based model of e-commerce means that an e-commerce activity wherever the inventory of goods and services is closely-held by e-commerce entity and is sold to the consumers directly.



## **Topic 13:BTIA**

### ***Importance for Prelims: International Agreements***



India – EU Summit is scheduled to take place this year may. This has increased the expectations regarding BTIA.

#### **About BTIA:**

- In June 2007, India and therefore the EU began negotiations on a broad-based Bilateral Trade and Investment Agreement (BTIA) in Brussels, Belgium.
- These negotiations are pursuant to the commitment created by political leaders at the 7th India-EU Summit held in Helsinki on 13th October 2006 to move towards negotiations for a broad-based trade and investment agreement on the basis of the report of India-EU High Level Technical group.

#### **Significance:**

- India and also the EU expect to promote bilateral trade by removing barriers to trade in goods and services and investment across all sectors of the economy.
- Both parties believe that a comprehensive and impressive agreement that is consistent with World Trade Organization rules and principles would open new markets and would expand opportunities for Indian and EU businesses.

#### **The negotiations cover:**

- Trade in goods, trade in Services, Investment, sanitary and Phytosanitary Measures, Technical Barriers to Trade, Trade Remedies, Rules of Origin, Customs and Trade Facilitation, Competition, Trade Defence, Government procurement, Dispute Settlement, property Rights & Geographical Indications, Sustainable Development.

### **What's the issue?**

- Negotiations are languishing since 2013 once the talks collapsed over certain demands from the EU like greater market access for automobiles, wine and spirits, and more opening from the financial services sector like banking, insurance and e-commerce.
- The EU also needed labour, environment and government acquisition to be included within the talks.
- India's demand for easier work visa and study visa norms also as data secure status, that will create it easier for European companies to outsource business to India, were also not received enthusiastically by the EU countries.

## Topic 14: Private Members bill

**Importance for Prelims: Polity**

<b>PRIVATE MEMBER'S BILL</b>		
<p>➤ The first such bill to be passed was the Muslim Wakf Bill in 1954 and the last was the Indian Penal Code (Amendment) Bill in 1969</p>	<p><b>Till now, only 14 private members' bills have been passed by Parliament</b></p>	<p>➤ In the last session of Parliament, Rajya Sabha passed the Rights of Transgender Persons Bill. Moved by DMK MP Tiruchi Siva, it sought equal rights with dignity for transgenders</p>
<b>13th Lok Sabha (1999-2004)</b>	<b>14th Lok Sabha (2004-2009)</b>	<b>15th Lok Sabha (2009-2014)</b>
343 private members' bills were introduced, of which 17 were discussed	328 such bills were introduced, of which 14 were discussed	372 such bills were introduced and 11 were discussed

MPs have filed private member bills jointly and individually titled, Repealing and Amendment Bill 2021 for repeal of farm laws.

- It is a bill brought by the private members in any house. Private member is any Member of Parliament who is not a minister.
- The Chairman of the Rajya Sabha and Speaker of the Lok Sabha decides whether to admit the bill or not. The procedure of introduction of such bills needs a one-month notice. However, it is passed by same procedure as a public bill.
- The House secretariat examines it for compliance with constitutional provisions and rules on legislation before listing.
- Unlike the government bill (introduced by ministers), these bills are introduced and discussed only on Friday.
- It generally reflects the Opposition stand in Parliament.
- The drafting of bill is responsibility of members (in case of public bill it is done by the concerned department with consultation of the law department).
- The chances of passage of private member bill is less as the majority in the house may go against it and treasury bench in house perceive it as a

sanction of the government.

- So far, only 14 such bills have been passed (none since 1970.)

## **Topic 15: Ujjwala Scheme**

### ***Importance for Prelims: Welfare schemes***



The retirement of J&K MPs saw praise for Ujjawala scheme within the J&K. Addition of ten million beneficiaries throughout the year to the government's flagship scheme was announced throughout the budget 2021-22.

- As on January 31, regarding 83 million LPG connections are given under the scheme, that has helped the govt increase the all-India LPG coverage to 99.5 per cent.
- The scheme is significant as its info is being used to promote DBT in other schemes as well.
- Under the Pradhan Mantri Garib Kalyan package throughout the pandemic, free LPG cylinders were given to all Ujjwala scheme beneficiaries for 3 months.

### **About Ujjwala scheme:**

- It envisages the distribution of 50 million LPG connections to ladies below the poverty line and was launched in 2016, that was later increased to 8 crores by 2019 (Achieved).
- Under it a deposit-free LPG connection is given to eligible beneficiaries with financial help of Rs one,600 per connection by the Centre. It is a

scheme of Ministry of petroleum & natural gas.

**It aims at:**

- Empowering women and protective their health by reducing serious health hazards associated with cooking based on fossil fuel.
- Reducing the amount of deaths in India due to unclean cooking fuel.
- Preventing young children from important variety of acute respiratory illnesses caused thanks to indoor air pollution by burning the fossil fuel.

## Topic 16: National Commission for Minorities, Act 1992

*Importance for Prelims: Polity*



The SC issued notice to the Centre for transfer of cases from many high courts to it against the Centre's notification to declare 5 communities Muslims, Christians, Sikhs, Buddhists and Parsee as minorities in states/UT even wherever they are in majority.

- In 2019 The Supreme Court has dismissed a plea seeking tips to “identify and define” religious minorities in each State to protect their culture and interests. This plea sought to declare Hindus as minority in states wherever they're low in population.
- Currently, linguistic minorities are determined by the state government, and the religious minorities are determined by the Centre.
- The term “minority” is not outlined within the Indian Constitution. However, the Constitution recognizes religious and linguistic minorities.

### **Constitutional provisions for minorities:**

- Art 15 and Art 16 talks of no discrimination on basis of religion and equality of opportunity.
- Art 25-28 talks of freedom of religion to any or all communities. • Art 29 and Art 30 gives special educational and cultural rights to the linguistic and religious minorities.

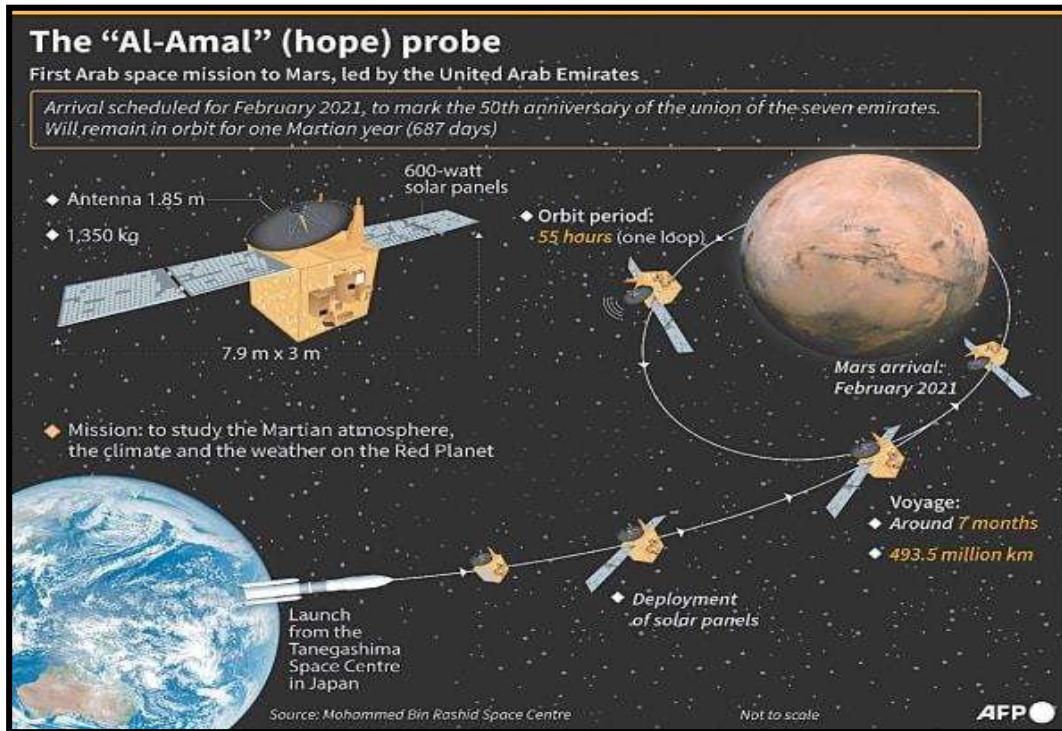
- Art 350-B talks of Special Officer to research all matters with reference to the safeguards provided for linguistic minorities under the Constitution.

### **About National Commission for Minorities Act:**

- It was passed in 1992 with the aim of safeguarding and protecting the interests of minorities as provided within the Constitution of India and laws enacted by the Parliament and the State Legislatures.
- The Union Government set up the National Commission for Minorities (NCM) under the National Commission for Minorities Act, 1992.
- National Commission for Minorities consist of chairperson, a Vice-Chairperson and five Members.
- The 5 Members including the chairperson shall be from amongst the minority communities.
- The Act mentions associate annual report, at the side of the memorandum of action taken on the recommendations contained in that, similarly because the reasons for nonacceptance of the recommendations, if any, be tabled before Parliament annually.
- Initially 5 religious' communities, viz., Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis) were notified as minority communities by the Union Government. further in 2014, Jains were also notified as another minority community.
- State Government recognised State Minorities Commissions in their respective State Capitals.
- Aggrieved persons happiness to the minority communities may approach the concerned State Minorities Commissions for redressal of their grievances.
- Moreover, they will also send their representations to the National Commission for Minorities, when exhausting all alternative official mechanism of remedies available to them.

## Topic 17: Amal or HOPE/ Arab's world first inter-planetary mission

### *Importance for Prelims: Science and Technology*



Arab spacecraft enters orbit around Mars in historic flight after 7 months.

Unmanned craft, called Amal, Arabic for Hope, had reached the end of its nearly seven-month, 300-million-mile journey and had begun circling the red planet.

- It is a Mars orbiter spacecraft of the United Arab Emirates which is Arab world's first inter-planetary mission.
- The mission is officially named the Emirates Mars Mission (EMM) and the orbiter has been named Hope or 'Al Amal'.
- The mission has a life of one Martian year (equivalent to 2 earth year).

#### **The mission aims to understand:**

1. Climate dynamics and global weather map of Mars by studying the lower atmosphere of Mars
2. Weather of Mars affects the escape of hydrogen and oxygen, by correlating conditions in the lower and upper atmosphere



3. The presence and variability of hydrogen and oxygen in the upper atmosphere, and why Mars is losing these gases to space.

## **Topic 18: Synchronized Pangong disengagement**

### ***Importance for Prelims: Security***

**After 9 months of military stand-off China announced synchronized troops disengagement along Pangong Tso in Eastern Ladakh.**

- The conflict on border started at Pangong Tso in may 2020. Later on, with talks going on the clashes between military happened at Galwan valley that claimed dead soldiers on both sides.
- Indian troops surprised the Chinese by occupying dominating heights on the south bank of Pangong Tso, and within the larger Chushul sub-sector. Since then, several rounds of talks at totally different levels took place.
- Indian troops positioned themselves on Gurung Hill, Magar Hill, Mukhpari, Rechin La and Rezang La. They even have direct view of China's Moldo Garrison, and the strategic Spanggur Gap which may be used to launch offensives — as the Chinese did in 1962.
- India and China share a three,488 km long boundary. sadly, the entire boundary is disputed. The line, that delineates the boundary between the two countries, is popularly referred to as the McMahon line, when its author Sir Henry McMahon.
- Post-1962 war, the boundary came to be called Line of Actual control (LAC). It is a military held line.

### **Current announcement:**

- This is predicated on Corps commander level speak on 24–
- There are a phased withdrawal.
- Troops occupying heights can descend at a later stage. The disengagement, sources underlined, can happen “simultaneously” on the north and south banks of Pangong Tso.

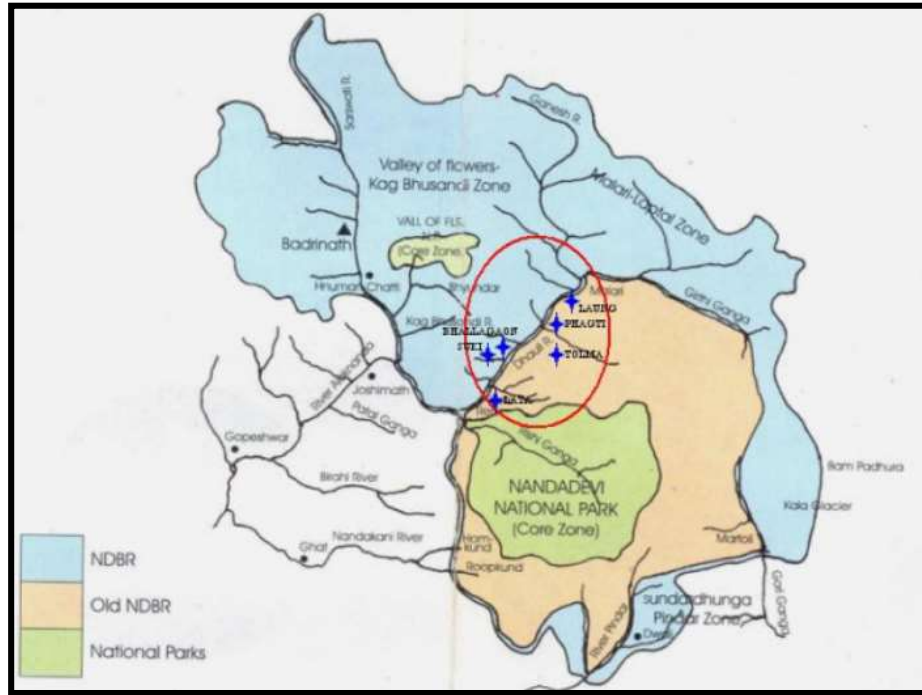
## About Pangong Tso:



- Pangong Tso is an endorheic lake (landlocked) that's part in India's Ladakh region and part in Tibet.
- Nearly two-thirds of the lake is controlled by China, with just about 45 km under Indian control. The LAC, running north-south, cuts the western part of the lake, aligned east-west.
- The lake's water, whereas crystal clear, is brackish, creating it undrinkable. The lake freezes during the winter, permitting some vehicular movement on that as well.

## Topic 19: Nandadevi Biosphere Reserve

### *Importance for Prelims: Environment*



Focus back on Himalayan ecosystem where a hydel project behind Nandadevi Biosphere Reserve (Uttarakhand) was washed away on Rishi Ganga river.

- It is India's most pristine high-altitude landscapes and a UNESCO world heritage site.
- The core areas the Nanda Devi and Valley of Flowers National Parks, which are oneWorld Heritage site.
- Nanda Devi National Park has remained more or less intact because of its inaccessibility.
- The Valley of Flowers National Park is renowned for its meadows of endemic alpine flowers and outstanding natural beauty. Together they encompass a **unique transition zone between the mountain ranges of the Zaskar and Great Himalaya.**
- There is total **18 Biosphere reserves in India.**
- There is total 11 biosphere reserves of India which have been recognized

### Internationally under Man and Biosphere Reserve program:

- Nilgiri
- Gulf of Mannar
- Sunderban
- Nanda Devi
- Nokrek
- Pachmarhi
- Similipal
- Achanakmar – Amarkantak
- Great Nicobar
- Agasthyamala
- Khangchendzonga (Added in 2018)

### About Biosphere Reserve:

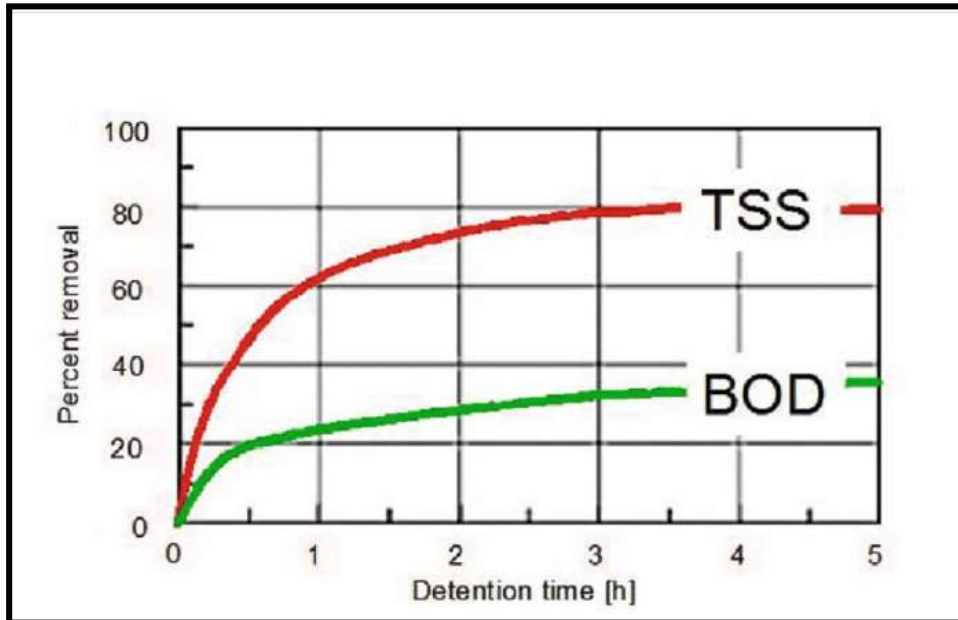
- Biosphere Reserve (BR) is a designation by UNESCO for representative parts of natural and cultural landscapes extending over large areas of terrestrial or coastal/marine ecosystems or a combination of both.
- Biosphere Reserves tries to balance economic and social development and maintenance of associated cultural values along with the preservation of nature.

### It has three-part structure:

1. **Core areas:** It is most protected area of a biosphere reserve and free from human interference. It may contain endemic plants and animals.
2. **Buffer Zone:** It is around the core areas and help in the protection of core areas. Some activities like restoration, limited tourism, fishing, grazing, research and educational activities etc. are allowed.
3. **Transition zone:** It is the zone of cooperation where human activities and conservation are done in harmony (Ex- settlements, croplands, managed forests and areas for intensive recreation and other economic uses etc. are done)

## Topic 20: Biological Oxygen Demand, Chemical Oxygen Demand, Total Suspended Solid

*Importance for Prelims: Environment*



**The Central Pollution Control Board (CPCB) and Ministry of Environment, Forests and Climate Change said that 100 of 156 drains in catchment of river Yamuna ‘are not meeting standards’ on a plea in the SC About BOD**

- BOD is the quantity of amount consumed by bacteria and alternative microorganisms while they decompose organic matter under aerobic conditions. Biological oxygen demand is essentially a live of the amount of oxygen required to take away waste organic matter from water within the method of decomposition by aerobic bacteria.
- Main sources of bod are: leaves and woody debris; dead plants and animals; animal manure; effluents from pulp and paper mills, wastewater treatment plants, feedlots, and food-processing plants; failing septic systems; and urban storm water runoff etc.
- Higher bod indicates additional oxygen is needed, signifying lower water quality. Low BOD suggests that less oxygen is being removed from

water, that the water is sometimes more pure.

### **Chemical oxygen Demand (COD)**

- COD may be a technique of estimating how much oxygen would be depleted from a body of receiving water as a result of bacterial action.
- The difference between BOD and COD is: COD or Chemical oxygen Demand is the total measure of all chemicals (organics & in-organics) within the water, whereas, BOD may be a measure of, the number of oxygen that need for the bacteria to degrade the organic components present in water.

### **Total suspended Solids (TSS):**

- It is that the dry-weight of suspended particles, that are not dissolved, in a very sample of water that may be trapped by a filter. These are analyzed through filtering ways.
- It is employed to assess the quality of a specimen of any variety of water or water body.

## Topic 21: Asiatic lion

### *Importance for Prelims: Environment*



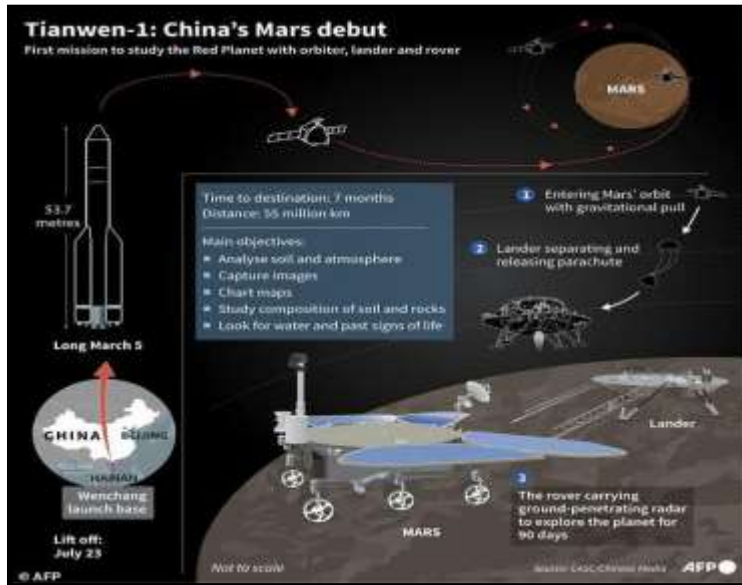
An Asiatic Lion entered into a hotel area in Gujrat from nearby Girnar jungle.

- Asiatic lion (*Panthera leo persica*) Asiatic lions are slightly smaller than African lions.
- Males have only moderate mane growth at the top of the head so their ears are always visible.
- The most striking morphological character, that is usually seen in Asiatic lions, and rarely in African lions, may be a longitudinal fold of skin running on its belly.
- Wildlife (Protection) Act 1972 also lists Asiatic lion in Schedule 1.
- CITES included Asiatic Lion in Appendix I.
- It is mentioned in IUCN Red List as Endangered Asiatic lions were once distributed to the state of West Bengal in East and Rewa in Madhya Pradesh, in central India.
- At present Gir National Park and Wildlife Sanctuary is that the only abode of the Asiatic lion.



## Topic 22:Tianwen-1

### *Importance for Prelims: SCIENCE AND TECH*



Chinese spacecraft entered MARS. It is an inter-planetary mission by the China National space Administration.

It aims at:

1. to land a rover
2. probe water
3. look for sign of ancient life

Yinghuo-1 was the first Chinese spacecraft to travel to MARS with help of Russia.

## **Topic 23: Koch Rajbangshis**


### ***Importance for Prelims: Geography***

The Home Minister is set to address Koch Rajbangshis community in poll-bound Assam. It is a community that traces its roots to the Kamata kingdom, which comprised parts of Assam, West Bengal and adjoining territories.

- In Medieval period ruled their territory of Kamatapur, which comprised a large part of Bangladesh, West Bengal, Bihar and India's north-east.
- Koch Rajbangshis are found in Assam, Meghalaya, West Bengal and Bihar, and in Bangladesh, Nepal and some parts of Bhutan.
- They are mainly found in Cooch Bihar (a princely state pre-independence which became part of West Bengal post-1947).

## Topic 24: Medical Termination of Pregnancy Act

### *Importance for Prelims: National Legislations*

<b>LEGAL CONSIDERATIONS</b>	
<p><b>Issue</b>   Section 3(2) in The Medical Termination of Pregnancy Act, 1971, says a doctor can terminate a pregnancy “where the length of the pregnancy exceeds 12 weeks but does not exceed 20 weeks”</p> <p><b>Counter-argument</b>   46 years ago, there were ultrasound or monitors to help foetal diagnosis. The SC has held that the right of a woman to have reproductive choice is an inseparable part of her personal liberty</p> <p><b>Way ahead</b>   The Centre has proposed to overhaul</p>	<p>the MTP Act. The upper gestational limit for termination of pregnancy for rape survivors has been proposed to be increased from 20 weeks to 24 weeks. For pregnancies diagnosed with substantial foetal abnormalities, it has been proposed that no upper gestation limit would apply for termination</p> 

Recently, Argentina’s Congress legalised abortions up to the 14th week of pregnancy. The Indian Parliament too can think about an amendment to our abortion law this Budget Session.

### **MTP Act, 1971**

- The idea of terminating a pregnancy cannot originate by choice and is purely circumstantial. Under the law (section 3 of the MTP Act 1971), the doctor can perform an abortion within the following situations:
- If the pregnancy would be harmful to the life of the patient or affects her physical or mental health. The doctor can go to consider the circumstances of the patient to figure out if the pregnancy can damage her mental health, on a case to case basis.
- If there's an honest chance that the child would suffer from physical or mental abnormalities which might leave him or her seriously

handicapped.

- If pregnancy occurred as a result of a failure of contraception (but this is often only applicable to married women). If pregnancy may be a result of sexual assault or rape.

### **Conditions for Termination of pregnancy**

- If the pregnancy has not exceeded 12 weeks, only one doctor has to be satisfied that the conditions are consummated.
- If the pregnancy has exceeded 12 weeks and is below twenty weeks (now amended to 24 weeks), 2 doctors got to be glad that the conditions are fulfilled.
- The gestation period does not matter if a doctor feels that an immediate abortion must be conducted to save the lifetime of the patient.
- The doctor who determines if it's necessary to perform an abortion and performs it needs to be a 'registered medical practitioner' under the law.

### **Illegal Abortions**

- Abortion of under 4 to 5 months pregnancy- The punishment for obtaining an illegal abortion is jail time of up to 3 years and/or fine.
- Both patients and doctors are considered to have committed a crime unless it fulfills the above condition.
- Abortion of over 5-month pregnancy- If abortion takes place once movements of the foetus will be sensed, the punishment is jail time of up to seven years and fine unless it was done in good faith to save the lifetime of the patient.
- Abortion while not consent – If anyone else forces the pregnant woman to have an abortion or performs one while not her agreeing to it, the punishment is jail time of up to 10 years and fine.
- Abortion resulting in death – If the patient dies because of a unskilled abortion or an abortion dispensed by an unqualified person, the doctor is punished

conducted the operation can be corrected with jail time of up to 10 years and fine.

- If the abortion was conducted while not the patient's permission, the punishment is a jail always.
- Intentionally inflicting the death of a foetus may be prosecuted under other provisions of the Indian legal code, 1860 under that the punishment will extend up to 10 years.

### **Consent of an individual**

- The doctors have a duty to induce the consent of a pregnant woman in order to perform the abortion.
- If a woman is below 18 (a minor) or stricken by a mental illness, the doctors have a duty to get the guardian's permission further.
- If a doctor performs an abortion while not consent, he or she will be able to be punished with a jail term extending up to 10 years and fine.

## **Topic 25: UNLAWFUL ACTIVITIES PREVENTION ACT**

### ***Importance for Prelims: National Legislations***

Only 2.2 % of cases registered under the Unlawful Activities (Prevention) Act between the years 2016 and 2019 resulted in convictions by court, according to data presented by the Union Home Ministry in the Rajya Sabha.

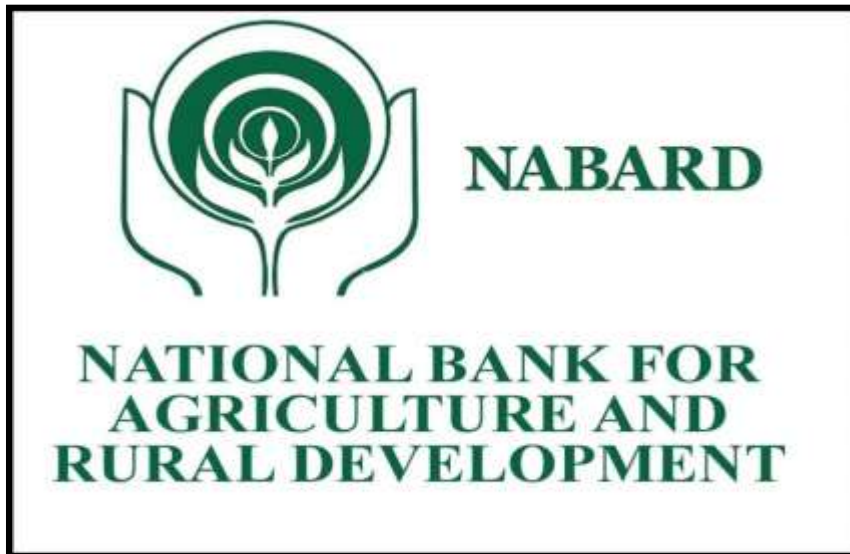
- UAPA was passed in 1967. It aims at effective prevention of unlawful activities associations in India.
- Unlawful activity refers to any action taken by a personal or association intended to disrupt the territorial integrity and sovereignty of India.
- The Act assigns absolute power to the central government, by approach of that if the Centre deems an activity as unlawful then it's going to, by approach of a politician Gazette, declare it therefore.
- It has death penalty and life imprisonment as highest punishments.
- Under UAPA, each Indian and foreign nationals it will be charged. it'll be applicable to the offenders in the same manner, albeit crime is committed on a distant land, outside India.
- Under the UAPA, the investigating agency will file a charge sheet in most 180 days once the arrests and therefore the length may be extended further once intimating the court.
- The 2004 change, added “terrorist act” to the list of offences to ban organisations for terrorist activities, below that 34 outfits were prohibited.
- Till 2004, “unlawful” activities referred to actions associated with secession and cession of territory.
- In August, Parliament cleared the Unlawful Activities (Prevention) amendment Bill, 2019 to designate people as terrorists on bound grounds provided in the Act.
- The Act empowers the Director General of National Investigation

Agency (NIA) to grant approval of seizure or attachment of property once the case is investigated by the said agency.

- The Act empowers the officers of the NIA, of the rank of Inspector or above, to investigate cases of terrorism in addition to those conducted by the DSP or ACP or above rank officer in the state.

## Topic 26:NABARD

### *Importance for Prelims: National Organizations*



National Bank for Agriculture and Rural Development (NABARD) is eyeing a 22nd growth in financial year size this fiscal year.

- It is an apex development and specialised bank established on 12 July 1982 by an act by the parliament of India.
- Its main focus is to uplift rural India by increasing the credit flow for elevation of agriculture & rural non farm sector.
- It was established supported the recommendations of the Committee acknowledged by the Reserve Bank of India (RBI) beneath the berth of Shri B. shivaraman.
- It replaced the Agricultural Credit Department (ACD) and Rural turning out with and Credit Cell (RPCC) of reserve bank of India, and Agricultural finance and Development Corporation (ARDC).
- It has been accredited with “matters relating to policy, designing and operations in the field of credit for agriculture and totally different economic activities in rural areas in India”.
- The banking company of India (RBI) recently sold its entire stakes inside the National Bank for Agriculture & Rural Development



(NABARD) and National Housing Bank.

- The call to divest its entire stake was taken supported the recommendations of the second Narasimham Committee. the government presently holds a 100 per cent stake in each NHB and NABARD.

## Topic 27: Enforcement Directorate

### *Importance for Prelims: Polity*



THE raids on the office of online news platform NewsClick and residences of its directors by the Enforcement Directorate (ED) continued for third day w.r.t. remittance cases.

- It is a Multi-Disciplinary Organization mandated with the task of enforcing the provisions of two special fiscal laws – Foreign Exchange Management Act, 1999 (FEMA) and Prevention of Money Laundering Act, 2002 (PMLA).
- An ‘Enforcement Unit’ was formed in 1956 in Department of Economic Affairs, for handling Exchange Control Laws violations under Foreign Exchange Regulation Act, 1947.
- In the year 1957, it renamed as ‘Enforcement Directorate’. The administrative control of the Directorate was transferred from Department of Economic Affairs to **Department of Revenue** in 1960.
- The Enforcement Directorate recruits some of its officers directly while

some others are appointed from other State agencies on deputation, like the Income Tax, Excise, departments, etc.

### **The Directorate primarily enforces two laws**

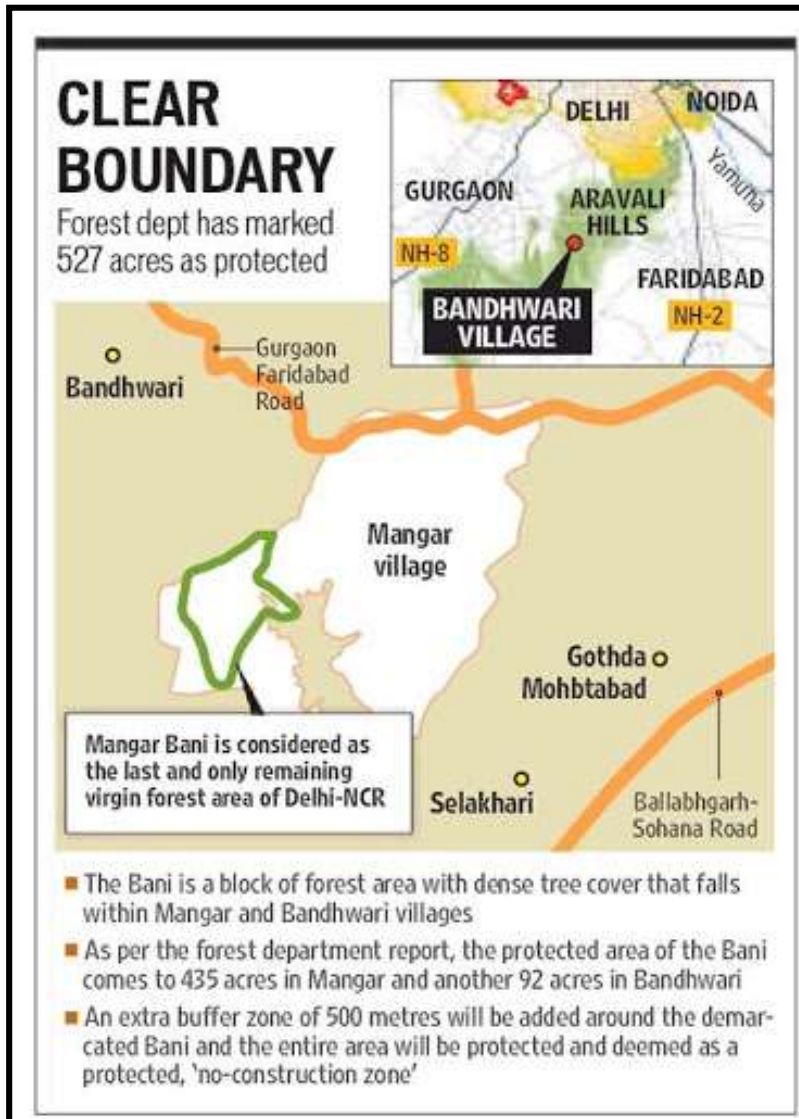
1. **FEMA**, a **Civil Law** which has quasi-judicial powers
2. **PMLA**, a **Criminal Law** (Officers are empowered to conduct enquiries to locate, provisionally attach/confiscate assets derived from acts of Schedules Offences besides arresting and prosecuting the Money Launderers)

### **It also performs following role:**

1. Processing cases of fugitive/s from India under Fugitive Economic Offenders Act, 2018.
2. Sponsor cases of preventive detention under Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA) in regard to contraventions of FEMA.
  - PMLA Court (one or more session courts) is designated for the trial of an offence punishable under section 4 of PMLA by the Central Government (in consultation with the Chief Justice of the High Court).
  - Any appeal against any order passed by PMLA court can directly be filed in the High Court for that jurisdiction.

## Topic 28: Mangar Bani

### *Importance for Prelims: Environment*



A study by CEDAR, the 219 species found in the Mangar landscape include 130 resident species, 53 winter migrants, 12 summer migrants, and 16 passage migrants.

- Mangar Bani is a sacred grove in Aravallis region. Mangar is a central part of a continuous north-south stretch of Aravalli forests from Asola, Asola Bhatti Wildlife Sanctuary (ABWLS) and Surajkund to the Damdamalake.

- The **nilgai**, India's largest antelope, is one of the most commonly spotted ungulates in the Mangar forests, which provide ample food for the herbivorous mammals.

**About sacred grove:**

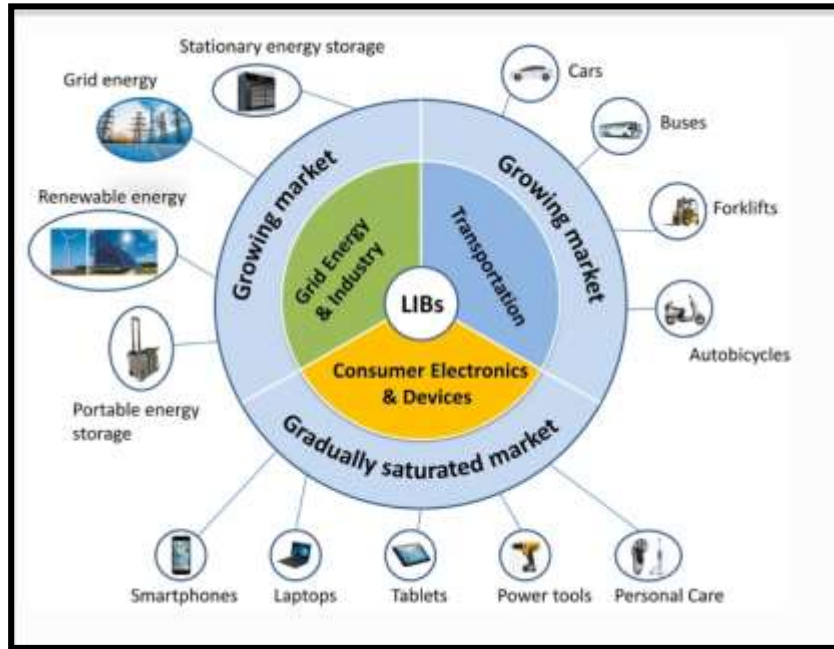
- Sacred groves are part of the forest fragments with religious or ritual significance for the community inhabiting the region. These are generally devoted to local folk deities or tree spirit.
- It is an early manifestation of nature worship.
- It is an example of in-situ conservation.
- It is found in many regions of India: Ex- In Kerala it is also known as "Kavus", In
- Bihar it is known as Sarnas, Kovikaadu in Tamil Nadu, and some of the richest groves are found in Meghalaya.

**Its significance includes:**

- Conservation of biodiversity
- Recharging aquifers
- Soil protection
- Medicinal use with the use of traditional knowledge
- Rich gene pool of rare flora and fauna.

**Topic 29:Next generation battery technology for Electric vehicles to replaceLithium-ion batteries**

***Importance for Prelims: SCIENCE***



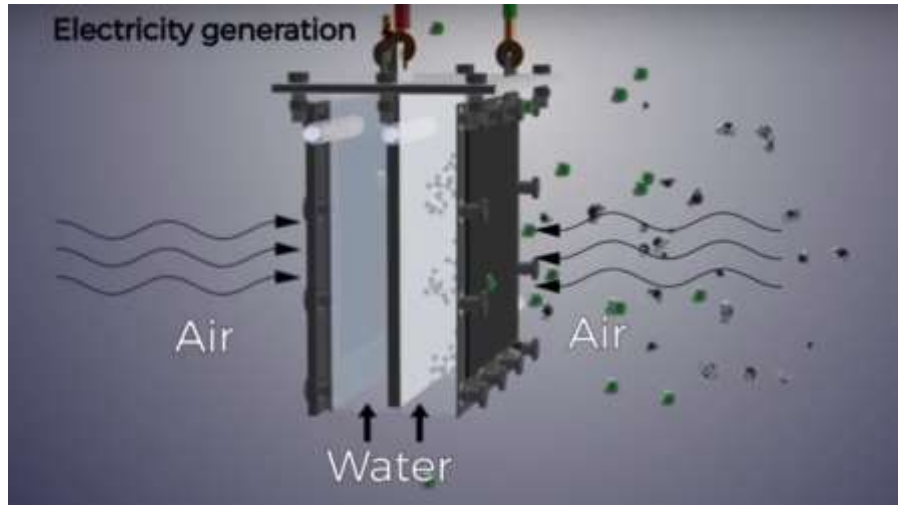
India will work out a policy to institutionalise research and development on the next generation of battery technologies for electric vehicles, like metal-ion, metal air,hydrogen fuel cell, etc, to replace lithium-ion batteries and reduce India’s dependence onother countries for its import within this decade.

**Metal-ion batteries:**

- Batteries based on multivalent metals have the potential to meet the future needs oflarge-scale energy storage, due to the relatively high abundance of elements such asmagnesium, calcium, aluminium and zinc in the Earth’s crust.
- These are rechargeable battery in which metal ions provide energy by flowing fromthe negative electrode of the battery, the anode, to the positive electrode, thecathode.
- These offer the possibilities of low cost and low flammability, together

with three electron-redox properties leading to high capacity

### Metal-air technology:



- A metal-air battery uses some type of metal (like aluminum) for the anode, air as the cathode, along with a liquid electrolyte.
- In the case of aluminum, oxygen from the air then combines with the metal to create aluminum hydroxide, which activates the electrolysis process and creates a current.
- Metal-air batteries are light, compact power sources with a high energy density, but they have had a major limitation i.e., they corrode.
- Once this is turned on, you can't turn them off. The only way to stop the reaction is to drain the electrolyte out of the system.

### Hydrogen fuel cell

- It is an electrochemical cell that converts the chemical energy of a fuel (often hydrogen in the case of Hydrogen Fuel Cell) and an oxidizing agent (often oxygen) into electricity through a pair of redox reactions.
- A Fuel Cell consists of an anode, a cathode, and an electrolyte that allows ions, often positively charged hydrogen ions (protons), to move between the two sides of the fuel cell.

- A fuel cell converts chemical potential energy (energy stored in molecular bonds) into electrical energy.



## **Topic 30:Gilt Funds**

### ***Importance for Prelims: Economy***

The RBI has allowed direct access to its platform to retail investors for deepening the government securities (G-sec) market and to help smooth sailing of the government's large yearly borrowing program of around Rs 12 lakh crore. Gilt fund is debt fund or pooled investment vehicle that invest in government securities.

- Earlier the government bonds used to be issued in golden-edged certificates, thus the nickname gilt comes from gilded edge certificates.
- There are 2 kinds of gilt funds.
- One, gilt funds that invest largely in government securities across maturities. Two, gilt funds with constant maturity of ten years – these funds must invest at least 80% of their assets in government securities with a maturity of 10 years.
- As per Sebi norms, gilt funds have the mandate to invest at least 80% of their assets in government securities.
- These are zero default risk. However, they need terribly high interest rate risk.

## Topic 31: Hedyotis sithiravaraiensis (Karumthumbai or Senthumbai or Sakkaraithumba)

**Importance for Prelims: Environment**



Chennai-based botanists have found a new plant species with possible medicinal properties discovered.

- It is a critically endangered species majorly due to unregulated commercial collection of the plant by the locals. It is a critically-endangered species of the Rubiaceae family in Pakkamalai in the Gingee Hills (in Eastern Ghats).
- Its leaves are collected for the medicinal properties by the locals for they believe it extends the life span of human beings.
- Inflorescence or flower head resembled species of the Lamiaceae (mint) family.
- The plant is closely allied with an Eastern Asiatic species, *Hedyotis uncinella* and a Western Ghats species, *H. rajasekaranii* Karupp & Ravichandran.
- The species had been named after its type locality Sithiravarai (Sethavarai), an archaeologically important site, as it has 3,500-year-old rock paintings in natural caverns. “Sithiram” means painting) and “Varai”

means hills.

## **Topic 32: Collegium**

### ***Importance for Prelims: Polity***

The current CJI is set to retire in a month with 14-month tenure coming to next month, yet, not a single judge to the SC has been appointed (around six vacancies).

- Collegium system was born through “three judges’ case” and it's in apply since 1998. It consists of the chief justice of India and 4 most senior judges of Supreme Court for appointment and transfer of judges and decides on their recommendations for persons to be appointed as SC and HC judges.
- The collegium recommends names to the Centre and the Centre also recommends name. The collegium after considering the names once more sends the file to the government.
- If the Collegium resends the same name again then the government has to give its assent to the names. but deadline isn't mounted to reply

### **Evolution and working of the collegium system in India**

- It is based on the interpretation of the term “Consultation” as mentioned within the Art 124 and Art 217 of the Constitution, and evolved through three judges cases
- In the primary Judges case (1982), the Court commanded that consultation does not mean concurrence and it only implies exchange of views.
- In the Second Judges case (1993), the Court reversed its earlier ruling and changed the that means of the word consultation to concurrence.
- In the Third Judges case (1998), the Court opined that the consultation process to be adopted by the chief justice of India needs ‘consultation of plurality judges.

- The sole opinion of the CJI doesn't constitute the consultation method. He should consult a collegium of four senior most judges of the Supreme Court and notwithstanding 2 judges offer an view, he should not send therecommendation to the government.
- The court command that the advice created by the chief justice of India while not obliging with the norms and requirements of the consultation process aren't binding on the government.

## Topic 33: Losar

### *Importance for Prelims: Art and Culture*



- Tibetan New Year is being celebrated today.
- It is a festival of Tibetan Buddhism.
- It is celebrated on lunisolar (a calendar in many cultures whose date indicates both the Moon phase and the time of the solar year.) Tibetan calendar.
- It is celebrated on various dates depending on depending on location (Tibet,
- Bhutan, Nepal, India, and Pakistan) tradition.
- It corresponds to a date in February or March in the Gregorian calendar.
- It is known as Lhochhar in Nepal.
- In Ladakh religious offering is made to the deities in domestic shrines or GOMPAS.
- Cultural event, rituals and traditional performances are also organized.

## **Topic 34: Affordable Rental Housing Complexes scheme (ARHCs)**

### ***Importance for Prelims: Welfare schemes***

ARHCs are seen as a part of AtmaNirbhar India and seeks to make a sustainable ecosystem of affordable rental housing solutions for urban migrants/ poor.

- It could be a sub-scheme under Pradhan Mantri Awas Yojana – Urban (PMAY-U) and is under Ministry of Housing and urban Affairs.
- It are implemented by Public/Private bodies either by converting the existing Government funded vacant complexes into ARHCs or by constructing, operating and maintaining ARHCs on their own available vacant land.
- It envisages to create a conducive ecosystem for Public/ personal Entities through policy incentives which is able to leverage investment for making affordable rental housing stock.
- Beneficiaries for ARHCs are from Economically Weaker Section (EWS)/ Low Income group (LIG) who are urban migrants/poor. They include labour, urban poor (street vendors, rickshaw pullers, other service suppliers etc.), industrial workers and migrants working with market/ trade associations, educational/ health institutions, hospitality sector, long run tourists/ guests, students or any other persons of such category.

### **Following incentives/ advantages are planned by Government of India and State/UT Governments:**

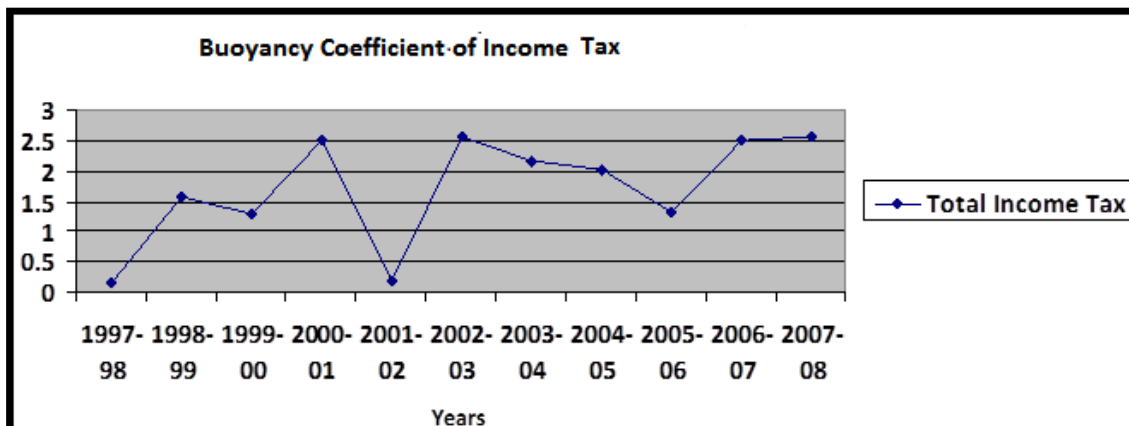
- Exemption of income tax on any profits and gains derived from operation of ARHCs on similar lines as that of ‘Affordable Housing’ under section 80-IBA of Income Tax Act, 1961; Exemption of GST on any profits and gains derived from operation of ARHCs.
- Project finance/loan at lower interest rate through concessional window under Affordable Housing Fund (AHF) by Housing Finance companies (HFCs) and Priority Sector disposition (PSL) by Commercial

Banks; Provision of “Use Permission” changes for homes on vacant land, if needed; 50% further Floor space magnitude relation (FAR)/ Floor house Index (FSI) freed from cost; Single window approval of design/ drawings and alternative statutory approvals within 30 days; Necessary trunk infrastructure facilities like road, sanitation services, water, sewerage/septage, drainage, electricity etc. up to the project site while not any additional price to Entity;

- Municipal services like water supply, electricity, house/ land tax, sewerage/septage charge etc. for operation of ARHCs are levied at par with residential projects; and Additional grant within the type of Technology Innovation Grant (TIG) is provisioned by Ministry of Housing and concrete Affairs (MoHUA) for using innovative, sustainable, inexperienced and disaster-resilient technologies as well as building materials for price effective, quicker and quality construction of ARHCs. TIG of Rs. 60,000/- per house (Single Bedroom), Rs. 1,00,000/- (Double Bedroom) and Rs. 20,000/- per Dormitory Bed are provided as per theme guidelines.

## Topic 35: Tax buoyancy

### *Importance for Prelims: Economy*



the finance secretary said the revised estimates of revenue and expenditure for the current fiscal were realistic and tax buoyancy expectations are realistic.

- Tax buoyancy explains relationship between the changes in government's tax revenue growth and also the changes in gross domestic product.
- It refers to the responsiveness of tax revenue growth to changes in gross domestic product.
- When a tax is buoyant, its revenue increases without increasing the tax rate.
- A similar looking concept is tax elasticity. It refers to changes in tax revenue in response to changes in tax rate.

### **Tax buoyancy depends mainly on**

- Size of the tax base
- Tax administration regime
- Reasonableness and simplicity of the tax rates
- Wealth creation

### **Trends**

- Tax buoyancy was fairly moderate between 1 and 1.3 in 4 tax revenue years between 1991-92 and 1997-98 and was poor within the remaining 3



years

- During the 2004-05 to 2008-09 amount, the primary four years recorded tax buoyancy between 1.3 and 1.7, a worthy performance.
- In the fifth year (2008-09), there was a pointy fall in tax buoyancy to regarding 0.2.
- The 2014-19 period saw steady performance in tax buoyancy.

## **Topic 36: Hot money**

### ***Importance for Prelims: Economy***

The reserve bank of India's strategy to shift some of its rupee intervention to the forwards market is drawing hot money in India.

- Hot cash refers to the currency that quickly and often moves between financial markets and is invested for short-term.
- In this investors lock within the highest available short-term interest rates for large gains.
- It is less flexible and convey in volatility in economy (Ex- FPI is commonly remarked as "hot money" because of its tendency to flee at the primary signs of trouble in an economy.).
- Banks sometimes attract "hot money" by providing comparatively short-term certificates of deposit (CD) that have above-average interest rates. As presently because the establishment reduces interest rates or another institution offers higher rates, investors with "hot money" withdraw their funds and move them to a different establishment with high rates

### **About certificate of deposit**

- Certificate of Deposit (CD) could be a market instrument and it's negotiable and equivalent to a promissory note.
- It is either issued in dematerialized kind or within the type of a usance promissory note.
- It is issued in lieu of the funds deposited at a bank for a such time period.

## **Topic 37: Power to make changes in the SC list**

### ***Importance for Prelims: POLITY***

- The Union government on Saturday introduced a Bill within the Lok Sabha to team seven scheduled Caste groups within the Tamil Nadu under a common nomenclature as “Devendrakula Vellalars”.
- The bill to classify the community is based on accepting the advice of the Hansraj Varma Committee.
- Article 341(1) of the Indian Constitution offers the president the ability to notify which castes within the country, and in specific states come back below the category of Scheduled Castes.
- Under article 341 (2) of the Constitution the power to create changes to the SC and ST list lies with the Parliament and not state legislatures. Any modification within the lists of the scheduled Castes and Tribes needs a constitutional modification.
- Only proposals in agreement by each the Registrar General of India and therefore the National Commission for scheduled Castes are introduced as a Bill in Parliament.
- The criteria for inclusion in SC list are extreme social, instructional and economic backwardness arising out of ancient follow of untouchability.
- scheduled Castes are those castes named within the Scheduled Castes order of the govt of India, published in August 1950.

## **Topic 38: Tribunals**

### ***Importance for Prelims: Polity***

The government proposes to finish up 5 tribunals, as well as airport Appellate Tribunal, Authority for Advance Rulings and intellectual property appellate Board, Appellate tribunal under the Cinematograph Act and Plant Varieties Protection appellant Tribunal through Tribunals Reforms (Rationalisation and Conditions of Service) Bill, 2021. Tribunalisation has become a major issue with excess of new tribunals across the sector. Critics additionally see this as the simplest way of by-passing High Courts as below the Constitution attractiveness to tribunals order lies directly before the court.

- The Constitution doesn't outline tribunals.
- In *Durga Ravi Shankar Mehta v/s Raghuraj Singh* case the SC defined tribunal in the following words: "The court as utilized in Article 136 doesn't mean the something as 'Court' however includes, inside its extent, all adjudicating bodies, provided they are entrenched by the state and are unconditional with judicial functions as distinguished from body or government functions.
- 42nd modification provided for tribunals below article 323-A and 323-B. Art 323-A enabled Parliament to form body tribunals. Other tribunals might be created by each Parliament and also the states under the Art 323-B for matters falling under their jurisdiction.
- Under Art 323-B hierarchy of tribunals might be created. However, under Art 323-A only one administrative tribunal (CAT in 1985) and one every for every states or too or a lot of states will be created, so no hierarchy.

## Topic 39:Habeus Corpus

### *Importance for Prelims: POLITY*



A report by the Forum on Human Rights in Jammu and Kashmir has concluded that the priority to counter-insurgency has vitiated protections like habeas corpus, prevention of illegal detention.

- The SC (under Art 32) and also the HC (under art 226) will issue writs (a formal written order issued by a body with body or judicial jurisdiction; in modern usage, this body is mostly a court) of Habeas Corpus, mandamus, prohibition, certiorari and Quo-Warranto.
- Further, the Parliament will authorize other courts to issue such writs (borrowed from Britain's right Writs).

### **About Habeus Corpus:**

- It means that "You could have the body".
- Its purpose is to unharness someone who has been detained unlawfully whether or not in prison or in private custody.
- It is considered bulwark of individual liberty against arbitrary action. • It isn't issued when: Detention is lawful
- Proceeding is for contempt of law-makers or a court.
- Detention is by a competent court

- It is outside the jurisdiction of the involved court.

## **Topic40:Non-lapsable Defence and Internal Security Modernisation Fund**

### ***Importance for Prelims: Security***

- The 15 Finance Commission (FC) recommended Non-lapsable Defence and Internal Security Modernisation Fund in its report to ensure continuity in fund support.
- The 15th FC has recommended ₹1.5 lakh crore be shifted from the Consolidated Fund of India over five years.
- The commission has suggested this to come from Gross revenue receipts and not Gross tax revenue, thus not impacting divisible pool of tax or cess, surcharge or defence tax.
- It is to fix mismatch between the procurement cycle and the financial allocations for defence on an annual basis.
- To provide stability on availability of resources for meeting capital expenditure for Defence and thus strengthening security.
- Apart from the Consolidate Fund it will be boosted by monetisation of idle assets of the defence ministry (It holds huge parcel of land and other assets)

### **Other focus areas of 15 FC:**

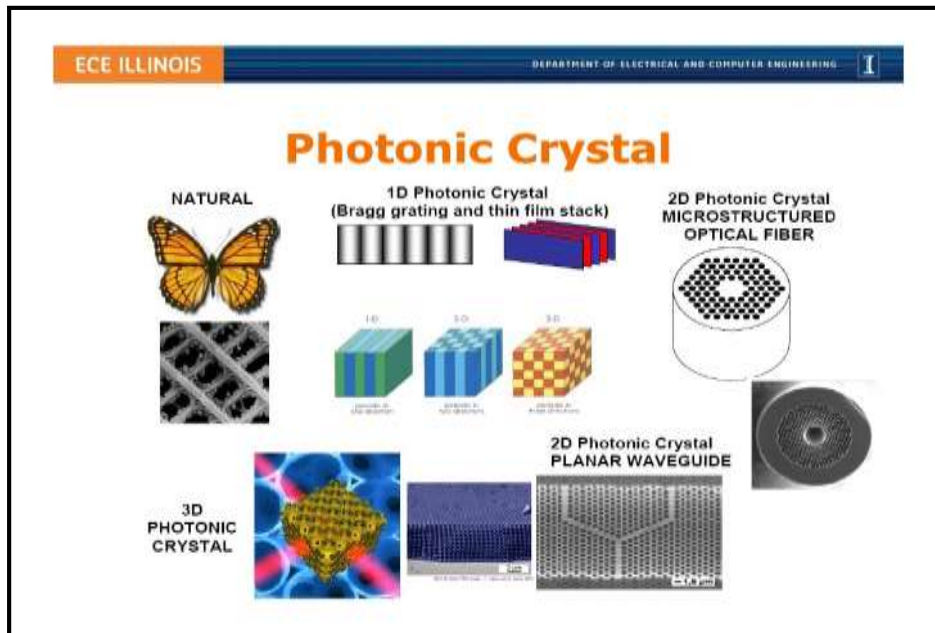
- Focus of 15th FC has been on equity, need and efficiency as well as continuity and stability: Continuity of the 41% share (factoring in J&K's change in status) New criteria of demographic management by assigning a 12.5% weightage, and if States still suffered, mitigation by a revenue deficit grant which covers many of the States like Andhra Pradesh, Kerala and Telangana Percentages assigned to different weights at more or less what they were, with very marginal change by increasing the forest cover criteria Reprioritization of the expenditure pattern: Ex- Specific treatment

of the resources to urban local bodies towards improving health infrastructure of primary health centers and district hospitals keeping threat of pandemic in mind Flexibility in fiscal deficit target: Fiscal deficit target for states saw one percentage point more — 4% instead of the 3% of GSDP, and an additional 0.5% for undertaking power sector reforms

- If any of the States have to undertake fresh borrowing on account of liabilities arising out of the GST compensation cess, that would be over and above the flexibility New fiscal consolidation plan, a new debt trajectory, formation of a new intergovernmental body to look into Central govt fiscal target with aim to achieve targets in medium term.

## Topic 41: Nanophotonic

### *Importance for Prelims: Science and Technology*



University of Hyderabad have shown however crystals are often sliced and even bent using atomic force research Nanophotonic is that the study of the behavior of sunshine on the nanometer scale, and of the interaction of nanometer-scale objects with light.

- Its aim is to go beyond electronics and build up circuits driven entirely by photons(light)

#### **Application of nanophotonics:**

Unprecedented level of miniaturisation may well be achieved

- It will pave the way to all-optical technology like pliable, wearable devices operated by light weight entirely.
- It can facilitate develop building an “organic photonic integrated circuit” or OPIC
- Crystals are usually rigid, stiff structures.
- However, the scientists at Hyderabad have shown crystals are often sliced and even bent exploitation atomic force microscopy.
- Light, once left to itself moves on straight methods. so technology seeks



to create hurdles or material which can force light to bend.

- This is like exploitation fibre optics, however at the nanoscale level using organic crystals.
- The researchers have named methodology} “mechanophotonics” as this method can be accustomed generate the basic parts required to make up a photonic integrated circuit

### **About Atomic Force research (AFM)**

- Atomic force research is important surface analysis technique used for micro/nanostructured coatings. it's used for high-resolution nanoscale images and study local sites in air (conventional AFM) or liquid (electrochemical AFM) surroundings.

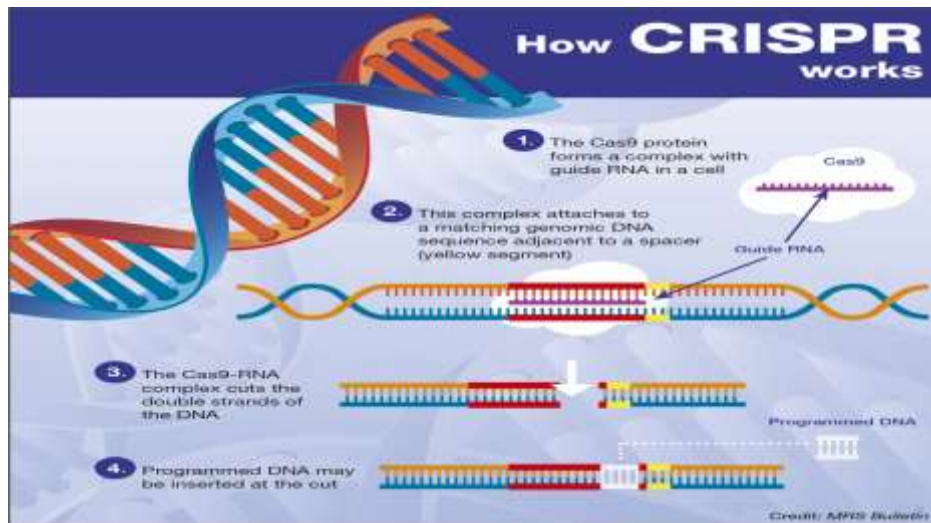
## **Topic 42: Genome mapping of Malaria vector**

### ***Importance for Prelims: Science and technology***

Tata Institute for genetics and Society (TIGS), and Institute of Bioinformatics and Applied Biotechnology scientists have developed ordering map of malaria vector.

- A new reference genome for the Asian malaria vector dipterous insect “Anopheles stephensi”.
- It found quite 3,000 genes that previously evaded scrutiny and that offer fresh gene-drive targets, play key roles in blood feeding and the metabolism of ingested feed, replica and immunity against microbial parasites
- It helped notice 29 at one time undetected genes that play crucial roles in resistance to chemical pesticides.
- The findings also provide clues suggesting that the molecular basis of insecticide resistance could differ between sexes.
- It can have role in development of genetic management ways of malady transmission
- It can facilitate malaria biologists in Asian nation and therefore the remainder of the planet, particularly in view of the national goal of malaria elimination in India by 2030.

## About CRISPR technology



- CRISPR technology is a gene-editing tool which allows researchers to easily alter DNA sequences and modify gene function

## **Topic 43: Arjun Mark 1A**

### ***Importance for Prelims: Security***

On the eve of 2 years of Pulwama attack the PM dedicated the “Main Battle Tank Arjun Mark 1A” to the nation. It is an indigenously designed, developed and manufactured by CVRDE and DRDO along with 15 educational institutions, eight labs and a number of other MSMEs. The biggest accomplishment with the most recent version is 54.3 per cent indigenous content against the forty one per cent within the earlier model. The Mk-1A version has 14 major upgrades on the sooner version. It's also supposed to have missile firing capability as per the planning, however this feature is supplementary later as final testing of the capability continues to be on.

### **About the Arjun Main Battle Tank:**

- It was initiated by DRDO in 1972 with the Combat Vehicles analysis and Development institution (CVRDE) as its lead laboratory.
- It may be a progressive tank with superior fire power, high quality, and excellent protection.
- The CVRDE achieved breakthroughs within the engine, transmission, hydropneumatic suspension, hull and turret yet because the gun control system.
- Mass production began in 1996 at the Indian Ordnance Factory's production facility in Avadi, Tamil Nadu.

### **Features:**

- It stands out for Fin Stabilised Armour Piercing Discarding Sabot (FSAPDS)' ammunition and 120-mm calibre rifled gun.
- It has computer-controlled integrated readying system with stable sighting that works altogether lighting conditions.

- It also has 2 secondary weapons (machine gun) connected to that.

## **Topic 44:C**

### ***Importance for Prelims: Environment***

Debris and silt across Ganga once Uttarakhand flood raised turbidity of water impacting water supply in Delhi. It is the degree to that the water loses its transparency thanks to the presence of suspended particulates. it's thought of good measure of quality of water. Turbidity could be a measure of relative clarity of a liquid and is measured in Nephelometric turbidity Units (NTU). Debris, silt and mud within the water are among the reasons behind high turbidness. WHO establishes that the turbidity of drinking water shouldn't be quite five NTU, and should ideally be below one NTU. A turbidity activity may well be used to offer an estimation of the toxic shock (Total Suspended Solids) concentration, that is otherwise a tedious and difficult parameter to live.

### **Sources/Factors of turbidity include:**

- Phytoplankton
- Sediments from erosion
- Resuspended sediments from the bottom (frequently kindle by bottom feeders like carp)
- Waste discharge
- Algae growth
- Urban runoff

### **Impact of turbidity**

Affects drinking water quality. Suspended particles absorb heat from the sunlight, creating turbid waters become warmer, and then reducing the concentration of oxygen within the water. Many organisms can't survive in warm water. It also helps the attachment of heavy metals and lots of different toxic organic compounds and pesticides.

## **Topic 45: Coagulants**

### ***Importance for Prelims: Science and Tech***

Rise in turbidity in rivers due to Uttarakhand flood saw use of coagulants to treat turbidity.

To address the turbidity in Delhi's water sources coagulants are being added temporarily, so that they can be filtered.

Coagulants are particles that causes particles in liquid to clump together and formclot which can be filtered out.

Coagulation with extracts from natural and renewable vegetation has been widelypracticed throughout history.

Extracts from the seeds of the Moringa oleifera tree, widely present in Africa, theMiddle East, and the Indian subcontinent, can be used. Strychnopotatorum (alsoknown as the clearing nut or nirmali tree), is found in India, Sri Lanka and Myanmar and can be used to treat water. Prickly pear cactus is prevalent and traditionally used in Latin America. Lava beans are other example of natural coagulant.

- Alum is one of the most widely used coagulants in the water treatment industry.
- Organic coagulants are generally used for solid & liquid separation and sludgegeneration. Ex- PolyAMINEs and PolyDADMACs; Melamine Formaldehydes andTannins
- Inorganic coagulants: cost-effective and applicable for a broad variety of water andwastewater. Inorganic coagulants are particularly effective on raw water with lowturbidity and will often treat this type of water when organic coagulants cannot. Ex-Alum, Aluminum Chloride, Polyaluminum Chloride (PAC) & AluminumChlorohydrate (ACH), Ferric Sulfate & Ferrous Sulfate, Ferric Chloride

### **How does coagulation work to remove turbidity?**

- Coagulants contain significant quantities of water-soluble proteins, which carry an overall positive charge when in solution.
- The proteins bind to the predominantly negatively charged particles that cause turbidity (e.g., sand, silt, clay).
- Coagulation happens when the positively and negatively charged particles are chemically attracted.
- They can then accumulate (a process called flocculation) to form larger and heavier particles called flocs.
- The flocs can be settled out or removed by filtration. Bacteria and viruses can attach themselves to the suspended particles in water that cause turbidity.
- Therefore, reducing turbidity levels through coagulation may also improve the microbiological quality of water.



## **Topic 46: Protem speaker**

### ***Importance for Prelims: Polity***

- The MP protem Speaker said recent Rinkusharma murder was thanks to “dharmaand Hindutva”, and culprits should be punished.
- The word “Protem” could be a latinwor that means “time-being”. Hence, protem speaker isone in workplace for time-being.
- Usually, the senior most member is elected because the pro-tem speaker.
- The president/governor administers the oath of the workplace for the pro-tem speaker. When the house elects the new speaker the workplace of the pro-tem speaker ceases toexist. thence the workplace of the pro-tem speaker could be a temporary one which will be inexistence for few days.
- He/she has same power and privileges as that of the speaker. Role of protem speaker
- to administer the oath to the newly elected members and help house elect the new Speaker.

## **Topic 47: TheruKoothu**

### ***Importance for Prelims: Art and Culture***

A group of TheruKoothu, a declining art form, saw artists activity their first performance in political party rally this year.

- It is that the preferred sort of people drama of Tamil Nadu, virtually suggests that “streetplay”.
- It is usually performed at the time of annual temple festivals of Mariamman (Raingoddess) to achieve made harvest.
- At the core of the extensive repertoire of Therukoothu there's a cycle of eight plays based on the life of Draupadi.
- Kattiakaran, the Sutradhara of the Therukoothu performance, offers the gist of the play to the audience and Komali entertains the audience together with his buffoonery
- In TheruKoothu make-up and costumes are thought-about to be of prime importance. They perform with menacing moustaches, heavy make-up, colourful dresses and a few male dressed as female mythological characters moreover.
- Generally performed in exterior, under the gas lights.

## **Topic 48:Thiruvallvur**

### ***Importance for Prelims: Art and Culture***

A fuel station owner at Nagapampalli close to Karur has been giving half-a-litre of petrol free to customers whose kids recite ten couplets of Thirukkural. The aim of initiative is:

1. Promote reading habit
2. bring about attention in students
3. Awareness regarding the poet and his ideas

### **About Thiruvallavur:**

- Thiruvalluvar is additionally known as Valluvar and was a Tamil poet-saint.
- Regarded because the cultural and ethical icon for Tamils across caste and religious lines.He dismissed the caste systemHe had contributed the Tirukkural or ‘Kural’ to the Sangam literature.
- Tirukkuralis comprised of 133 sections of 10 couplets every is divided into threebooks: aram (virtue), Porul(government and society), and Kamam(love).
- Recently political controversy arose for if belonged to three century or 8to 9 additionally, he's related to Jainism moreover as Hinduism by some groups.
- 15 January is celebrated because the Thiruvalluvar Day.

## **Topic 49: External Commercial Borrowing (ECB)**

### ***Importance for Prelims: Economy***

- ECB as cheap source of borrowing needs to be availed with caution said RBI director.
- It is a commercial loan raised by an eligible resident entity from recognised nonresident entities.

### **These foreign sources could be:**

1. Commercial bank loans
2. Buyers' credit and suppliers' credit
3. Securitised instruments such as Floating Rate Notes and Fixed Rate Bonds etc.
4. Credit from official export credit agencies and commercial borrowings from the private sector window of Multilateral Financial Institutions. Commercial borrowings account for the largest component of India's external debt.

### **Why ECB?**

- With interest rates in the US and Euro Zone currently being markedly lower than domestic rates, a corporate can save on its financing costs by taking recourse to ECB even after it takes into account associated costs such as hedging, guarantee fees and other transaction costs.
- The six-month London Interbank Offered Rate (LIBOR) or any other six-month interbank interest rate applicable to a currency of borrowing such as Euro Interbank Offered Rate is the benchmark rate for ECBs in foreign currencies.
- In India it is allowed for expansion of existing capacity as well as for fresh investment.
- ECB is considered the best solution to push productive lending

without implications for price rise (as pushing liquidity involves risk of inflation) ECB is different from FDI as ECB means any kind of funding other than Equity which comes under FDI

### Concerns with ECB

- Borrowers' skill to use it to their advantage is a must for such instruments Exchange rate risk involved in servicing the debt Hedging off ECB is must and involves costs and this option may not be always Available Higher magnitude of foreign debt could lead to rupee appreciation and reduction in the competitiveness of our exports.