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for

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1. Geography

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1.1.Christmas Star

- Context: Jupiter-Saturn great conjunction
- After nearly 400 years, Saturn and Jupiter – the two largest planets in our solar system – were closest in the night sky by an astronomical event called the “great conjunction” and popularly referred to as the “Christmas Star”.
- On December 21, the two gas giants appeared very close to each other from earth, while they were hundreds of millions of miles apart in space.
- The event coincided with the winter solstice (shortest day of the year in terms of hours of sunlight received) in the Northern Hemisphere and summer solstice in the Southern Hemisphere.

So, What is the ‘Great Conjunction’?

- A conjunction is not unique to Saturn and Jupiter however, it is the name given to any event where planets or asteroids appear to be very close together in the sky when viewed from the Earth.
- In June 2005 for instance, as a result of the “spectacular” conjunction, Mercury, Venus and Saturn appeared so close together in the sky that the patch of sky where the three planets were could be covered by a thumb.
- Astronomers use the word “great” for the conjunction of Jupiter and Saturn because of the planets’ sizes.
- The “Great Conjunction” happens once in about 20 years because of the time each of the planets take to orbit around the Sun.
- Jupiter takes roughly 12 years to complete one lap around the Sun and Saturn takes 30 years (Saturn has a larger orbit and moves more slowly because it is not as strongly influenced by the Sun’s gravitational force as planets that are closer to the Sun).
- As the two planets move along their orbits, every two decades, Jupiter catches up with Saturn resulting in what astronomers call the great conjunction.
- Every two decades Jupiter—which can be thought of as a fast runner on the inside track of a racecourse—will overtake Saturn.
- This overtaking is what viewers on Earth witnessed on the night of December 21, when the planets appeared aligned in the sky.



Why makes the conjunction rare this year?

- While Jupiter and Saturn have been moving along on their orbits all throughout this year, since the beginning of December Jupiter has been moving closer to Saturn and on December 21, it will take over Saturn as it orbits around the Sun.
- Jupiter and Saturn are bright planets and can be typically seen with the naked eye even from cities.
- But during a conjunction, they appear to be close to each other, which is what makes the event noteworthy.
- This year, however, the event is rare because the planets will come the closest to each other in nearly four centuries, as a result of a “rare alignment” of the planets.
- Typically, every 20 years, when Jupiter overtakes Saturn, it passes it about a degree apart in the sky as a result of which they can be seen separated in the sky.
- But this year, because of the alignment between them, the planets will appear to be especially close to each other in the sky to viewers on Earth at about a tenth of a degree.
- Further, this year, the alignment of Saturn and Jupiter will occur at night, which has not happened in over 800 years.
- It is because of the timing of this alignment that viewers from nearly all over the world can expect to see this event.
- After Jupiter overtakes Saturn, the planets will reverse their position.

1.2.Brexit

- Context: UK and European Union finally agreed a deal that will define their future relationship.
- The deal contains new rules for how the UK and EU will live, work and trade together.
- The full document has not been released yet.

What we do know is that it means:

- No taxes on each other's goods when they cross borders (known as tariffs)
- No limits on the amount of things which can be traded (known as quotas)
- UK and EU will "continue co-operating in all areas of mutual interest, including things like climate change, energy, security and transport".
- UK will not be taking part in the Erasmus exchange programme for students.

Why did the deal take so long?

- The EU is the UK's nearest and biggest trading partner, The UK government says the deal covers trade that was worth £668bn in 2019.
- While the UK was in the EU, companies could buy and sell goods across EU borders without paying tariffs.
- Without the deal, businesses would have had to start paying these taxes, which would have added to their costs.

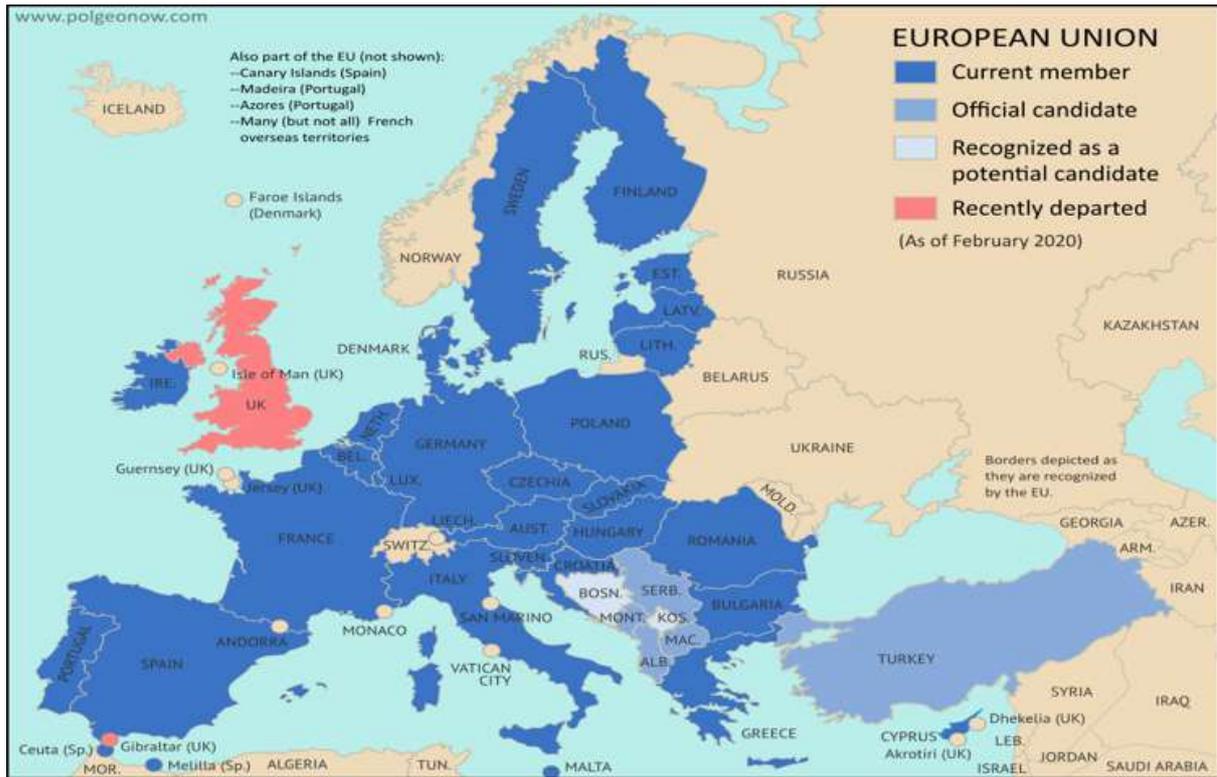
- No deal would have also meant even more border checks, which could have caused delays for lorries transporting products.

Brexit negotiations



What happens next?

- Even though the deal has been agreed, it still needs to be made law.
- For that to happen it must be looked at and approved by both the UK and European parliaments.
- As it's been left so late, the European Parliament won't have time to sign it off before the end of the year.
- That shouldn't stop the deal coming into force on 1 January, but it will take longer before it's officially rubber-stamped.
- The UK government says it will summon MPs back on 30 December to vote on the deal.
- However, there wouldn't be time to debate and look at the details closely.
- What are the EU and Brexit?
- The EU is made up of 27 European countries.
- EU citizens are free to live and work in other EU countries, and firms in those countries can buy and sell each other's goods without checks or extra taxes at borders.
- The UK was the first country to leave the EU and this was known as Brexit - British exit.
- Brexit happened because a public vote - or referendum - was held in June 2016, to decide whether the UK should be in the EU.
- Leave won by 52% to 48%.
- Transition period: The 11-month period following the UK's exit from the EU (finishing at the end of 2020), during which time the UK has followed EU rules, to allow leaders to make a deal.
- Free trade agreement: This is what the EU and the UK have now agreed - a deal between countries that encourages trade by getting rid of barriers like taxes on goods.
- WTO rules: If countries don't have free trade agreements, they must trade according to rules set by a global body called the World Trade Organization (WTO), which can mean taxes on goods.



1.3.Crude Oil Production In Bengal Basin

- Context: Oil and Natural Gas Corporation (ONGC) Limited has begun crude oil production from the Asokenagar-1 well, Bengal Basin in 24 Paragana district.
- This has made the Bengal basin India's eighth producing basin, joining the ranks of Krishna-Godavari (KG), Mumbai Offshore, Assam Shelf, Rajasthan, Cauvery, Assam-Arakan Fold Belt and Cambay.
- The Asokenagar-1 well was completed as an oil producer under Early-Monetization Plan.
- This makes ONGC having discovered and put to production seven out of the eight producing basins of India covering 83 percent of established oil and gas reserves.
- According to the Directorate General of Hydrocarbons, there are 26 sedimentary basins in India, covering a total area of 3.4 million square kilometer.
- Of these, 16 are onland basins, 7 located both onland and offshore and 3 completely offshore.
- ONGC said that it is had sent its first hydrocarbon consignment produced during well testing to Indian Oil Corporation Limited's Haldia Oil Refinery on November 5, 2020.
- Addressing the 'Urja Sangam' conference during March 2015, PM had said that India needs to bring down its oil import dependence from 77 percent in 2013-2014, to 67 per cent by 2022, when India will celebrate its 75th year of independence.



1.4. Western Ghats grasslands

- Context: Tropical montane grasslands (TMG) in the Shola Sky Islands of the Western Ghats have suffered big reductions due to invasions by exotic trees such as acacias, pines and eucalyptus, shrinking the range sizes of endemic species, including plants, birds, amphibians and mammals.
- Some populations are being driven to local extinction.
- The Shola forests of South India derive their name from the Tamil word solai, which means a 'tropical rain forest'.
- Classified as 'Southern Montane Wet Temperate Forest' by experts the Sholas are found in the upper reaches of the Nilgiris, Anamalais, Palni hills, Kalakadu, Mundanthurai and Kanyakumari in the states of Tamil Nadu and Kerala.
- These forests are found sheltered in valleys with sufficient moisture and proper drainage, at an altitude of more than 1,500 metres.
- The upper reaches are covered with grasslands, known as Shola grasslands.
- The vegetation that grows in Shola forests is evergreen.

Lost cover

A look at the loss of high-altitude grasslands in the Western Ghats

The negatives

- As much as 60% of the landscape has been modified in the last 4 decades
- Large extents of 516 sq km (38%) of native grasslands have been lost

Some positives

- Most small mountain-tops are stable, with little or no change
- Munnar and the Anamalai ranges are relatively stable

The study

- Landsat images between 1973 and 2017 used
- Covered all shola habitats across Western Ghats
- Researchers visited 840 locations across this habitat



Landscape	Area under exotic trees in 2003*	Area under exotic trees in 2017*	Area of invasion between 2003 and 2017*
Palani Hills	117	178	61
Nilgiris North and South Division	115	159	44
Mukurthi National Park	6	10	4
Eravikulam National Park	4	5	1
Total	242	352	110

* in sq km

Green meadow: This is how an undisturbed shola-grassland ecosystem should look like.

SPECIAL ARRANGEMENT

- The trees are stunted and have many branches.
- Their rounded and dense canopies appear in different colours.
- Generally, the leaves are small in size and leathery.
- Red-coloured young leaves turning into different colours on maturity is a prominent characteristic of the Shola forests.
- Epiphytes like lichens, ferns and bryophytes usually grow on the trees.
- The occurrence of Himalayan plants like Rhododendron in these Shola forests is a mystery.
- These are thought to be remnants of the vegetation driven to South India during the Quaternary Ice Age, about 2.6 million years ago, with subsequent changes in the tropics of South India.
- Sholas play a major role in conserving water supply of the Nilgiris' streams.
- The Sholas of the plateau are not of any great importance from a commercial point of view, as the trees are slow-growing varieties which produce timber of little or no value and probably take at least a century to mature. But they add greatly to the beauty of the country and are of immense use in protecting source of water supply.
- Sholas thus act as 'overhead water tanks'.
- The rolling grasslands found on top of the Western Ghats, enhance the beauty of the region. Usually, Shola forests and grasslands are found in a ratio of 1:5.
- Pastoral communities, who settled in the grasslands centuries ago, periodically burn grass.
- This has checked the advance of the Shola forests.
- As tree species of the montane, evergreen forests are flammable, regeneration of any Shola tree species is completely prevented except for Rhododendron nilagiricum, the only Shola tree that can tolerate fire.

- The rain received from the Southwest and Northeast monsoons is harvested by the Shola forest-grassland ecosystem, leading to the formation of the Bhavani river that finally drains into the Cauvery.
- Thus, the Shola forest-grassland ecosystem of the Nilgiris, also supports the prosperity of Cauvery delta farmers.
- But researchers have now identified areas suitable for grassland restoration and conservation to reverse the decline.
- They focus on identifying grassland restoration sites using satellite images with a high spatial resolution (RapidEye), and have recommended careful removal of young and isolated exotic trees at the invasion front and restoring grasslands, instead of removing dense stands of mature exotic trees.
- TMG are high elevation grasslands forming only 2% of all grasslands in the world.
- Among their functions is regulating the global carbon cycle and serving as a source of water to downstream communities.
- In India, TMG have even been classified as wastelands in forest management plans since they are unlikely to generate revenue, contrary to the timber (even if exotic) found in forests
- Loss of grasslands due to invasive exotic trees is a “novel threat” through the establishment and expansion of exotic tree plantations.
- In the Western Ghats, 23% of montane grasslands were reportedly converted into invasive exotic tree cover over a period of 44 years.
- Attempts to manage invasive exotic trees in montane grasslands incorporated approaches that include prevention and mechanical, chemical and biological control.
- For invasive species such as *Acacia mearnsii* that grow rapidly and disperse seeds widely, removing mature trees is often ineffective.
- An approach that targets the removal of young exotic trees would be more effective.
- Similarly, restoring grasslands where isolated but mature trees exist in grassland patches could be an easy way to restrict further dispersal.
- Most of the areas suitable for montane grassland restoration were located in the Nilgiris (126 sq km), followed by the Palani Hills (73 sq km), and the Anamalai (55 sq km).
- The largest areas for grassland restoration were in reserve forests (87 sq km), followed by wildlife sanctuaries (60 sq km) and national parks.
- The Palani Hills and Anamalai lost grasslands due to invasive species, Most of these species were planted, but that programme was stopped around the 1990s, and since then, they were purely invasive.
- The species have a very high seed bank, about which nothing can be done, but cutting them will require multiple cycles.
- The study also throws light on policies for grasslands, which are seen as having no productive use, as is often alleged in the case of the Hesaraghatta grasslands in Bengaluru.

1.5. New irrigation model to help desert villagers

- Context: A new model of minor irrigation through sub-surface porous vessels (SSPV) being developed is set to benefit the farmers with small land holdings in the villages of the Thar desert.
- Experiments have indicated a higher yield of farm produce and improvement in the nutrient value of soil after the installation of frustum-shaped vessels at the mounds formed on land.
- The initiative, supported by Indian Institute of Technology-Delhi's Rural Technology Action Group, was taken up earlier this year, after the COVID-19 lockdown was announced, to address the issues of non-availability of food material, malnutrition among children and the villagers' inability to earn livelihood in the cities.
- The model has effectively modified watering by pitchers and competes with drip irrigation.
- At the small Moklawas village in Jodhpur district, the vegetable farming through SSPV has started on the campus of 'Arna Jharna', which functions as the desert museum showcasing the arid landscape.
- The local villagers have created heaped piles of earth and are growing vegetables such as brinjal, tomato, spinach and lady's fingers with the new model.
- A SSPV is made of location-specific clay and sawdust, mixed in a proportion to suit the desert sand, press-formed to the frustum shape and baked at a temperature of 750-800 degree Celsius with the addition of a carbon layer in its structure.
- A team of local potters has been identified in Jodhpur for manufacturing the vessels in the open-hearth furnaces at their households.
- The SSPVs, with the storage of 8 to 9 litres of water, supplies it to a radius of land measuring 1.25 metres.



Fig. 1 Pitcher or Matka Removal



Fig. 2 Frustum Shaped SSPV Removal

1.6. India, World Bank sign pact for safe, green highways

- Green National Highways Corridor Project will support Road Transport and Highways Ministry 783 km of highways
- The Centre and the World Bank signed a \$500-million project to build safe and green national highway corridors in Rajasthan, Himachal Pradesh, Uttar Pradesh and Andhra Pradesh



- The project will also enhance the capacity of the Ministry of Road Transport and Highways (MoRTH) in mainstreaming safety and green technologies.
- The Green National Highways Corridor Project will support MoRTH to construct 783 km of highways in various geographies by integrating safe and green technology designs such as local and marginal materials, industrial by-products and other bioengineering solutions.
- The project will help reduce GHG (greenhouse gas) emissions in construction and maintenance of highways.
- The \$500-million loan from the International Bank for Reconstruction and Development (IBRD) has a maturity of 18.5 years, including a grace period of five years.

2. History

Click [here](#) to watch the following questions on YouTube

2.1. Khudi Ram Bose

- Context: The Union Home Minister paid homage to revolutionary Khudiram Bose in his village in Paschim Midnapore recently.
- Khudiram was born on December 3, 1889, in the small village of Habibpur situated in the Midnapore district of West Bengal.
- He was possessed by the spirit of the freedom movement when he heard a series of public lectures held in Medinipur, by Sri Aurobindo and Sister Nivedita. (She was an Irish teacher, author, social activist, school founder and a disciple of Swami Vivekananda)
- He became a volunteer when he was just 15 and courted his first arrest for distributing pamphlets against the British rule in India.
- Just a year later, he was taking part in full-blown revolutionary activities, planting bombs near police stations and targeting government officials.
- Khudiram was part of the Anushilan Samiti, propounding revolutionary violence as a means to drive the British out of India.
- During this period, the Chief Presidency Magistrate of Calcutta was Douglas H Kingsford.
- Infamous for handing out strong and harsh punishments to freedom fighters, he was a target of the revolutionaries. He was particularly vindictive towards anti-partition and Swadeshi activists.
- A 15-year-old youngster, Sushil Sen, had opposed the cruelty of cops beating revolutionaries assembled before the court, and Kingsford ordered 15 lashes for the boy.
- With every lash, Sen shouted 'Vande Mataram'.
- This news was widely published in the press, and when the revolutionaries read this news, they boiled with anger and decided that revenge was the best medicine for Kingsford.
- However, the British Government caught wind of the plan, and transferred Kingsford to Muzaffarpur, hoping that the anger of the revolutionaries in Calcutta would subside.
- The revolutionaries heard about this and prepared to kill Kingsford at Muzaffarpur.
- Prafulla Kumar Chaki and Khudiram Bose were appointed for the mission.
- They reached Muzaffarpur in the third week of August 1908 and adopted the aliases 'Haren Sarkar' and 'Dinesh Roy'.
- They decided to carry out spy missions, trying to learn about Kingsford's routine, attempting to find a loophole when the attack could be carried out.
- It was decided that a bomb would be used.
- Khudiram attacked Kingsford's carriage when it was leaving the club. As the horse carriage approached, Khudiram hurled a bomb at it.

- An explosion followed, and the carriage blew up and burst into flames. Prafulla and Khudiram, believing they had succeeded, melted into the darkness.
- Khudiram and Prafulla had thrown a bomb at a carriage, but sadly, it wasn't Kingsford's carriage.
- It was occupied by Mrs Kennedy, the wife of Pringle Kennedy, a leading pleader of the Muzaffarpur Bar, and her daughter. Both women lost their lives in the attack, within hours of each other.
- Unaware of Prafulla's suicide (Prafulla committed suicide when he was about to be arrested by the Police), Khudiram Bose assumed full responsibility of the Muzaffarpur bombings in front of the district magistrate.
- He was then put on trial.
- The trial started on 21st May 1908, and Bose, along with two others, faced the panel.
- On 23rd May, Khudiram resubmitted his statement to the magistrate, denying any responsibility for the attack.
- When the verdict was read out, Khudiram Bose smiled, prompting the judge to ask him whether he understood the full extent of his punishment. Bose replied that not only had he understood the verdict, he was also ready to teach the judge bomb-making if given the time.
- The British judges announced the final verdict on July 13th, 1908.
- One of the youngest revolutionaries of the Indian freedom struggle, he was hung on August 11, 1908, when he was just 18 years old.

2.2.Sentinel Island

- Context: "Any exploitation of the North Sentinel Island of the Andamans for commercial and strategic gain would spell the death knell for its occupants, the Sentinelese, a most secluded, particularly vulnerable tribal group (PVTG) who reside in complete isolation on the island" – A report by the Anthropological Survey of India (AnSI).

Key Findings

- It is a policy document, which has come almost two years after an American national was allegedly killed by the Sentinelese on the Island. The AnSI says the "right of the people to the island is non-negotiable."
- These rights are unassailable, non-negotiable and unfringeable.
- The prime duty of the state is to protect these rights as eternal and sacrosanct.
- Therefore, their island should not be eyed for any commercial or strategic gain, for if it were to happen, it surely would be a death knell for its occupants.
- Sentinelese, with a population of about 50 to 100 on the North Sentinel Island, are not only among the most isolated of nearly 70 PVTGs across the country, but also among the five in the Andaman and Nicobar Islands which include Great Andamanese, Onge, Jarawa, and Shompens.
- Along with maintaining the territorial integrity of the North Sentinel Island, the document also calls for building a knowledge bank on the Sentinelese.

- Since 'on-the-spot study' is not possible for the tribal community, anthropologists suggest the 'study of a culture from distance'.
- Anthropologists who have circumnavigated and conducted an aerial survey of the North Sentinel Island as late as 2015, said this is first detailed policy draft for the Sentinelese island, prepared at the request of the Andaman and Nicobar Administration.
- The anthropologists said that till 1990s, there were goodwill missions whose contact was limited to standing in shallow waters around the island at a distance and offering gifts to the members of the tribe.
- The policy document suggests that members of the goodwill missions should be interviewed for what they remember seeing during their circumnavigations as also fishermen from Wandoor, Manglutun, Chidiatapu, and others, about their visits to this island and any meeting with the tribal community.
- The policy document also talks about the Great Andamanese, a tribe that has had significant exposure to outside world
- Though both Sentinelese and Great Andamanese are classified as PVTG, the tribes live in two completely different contact situation.
- While in the case of the Sentinelese their contact to the outside world is almost nil, the Great Andamanese had decades of exposure to the world outside their Island
- Tracing the history of conflict of the Great Andamanese with the British in the 19th century and the outbreak of disease which brought down the number of members of the tribe from nearly 5,000 in 1858 to 30 in 1951, the document states that in 1969, the members of the tribe were settled at Strait Island having an area of about five sq. km.
- The document highlights that changes have taken place since then, including the fact that the Great Andamanese are no longer a foraging community.
- They are now a semi-aculturated and biogenetically not as pure as the Sentinelese or the Jarawa
- The policy for Great Andamanese calls for bringing out the population from the "State's development dependency" and make them a self-sustaining group.
- Along with steps for preservation of Great Andamanese language and teaching it as third language to the members of the tribe, the policy document seeks protection by prohibiting the entry of unauthorized person to Strait Island, protecting natural resources like fishing around the island and also safeguarding women and children from any kind of exploitation "ranging from voyeurism to sexual exploitation from outsiders.

AnSI

- The Anthropological Survey of India was established in 1945.
- It conducts bio-cultural investigation/ research on Indian population, collects and preserves documents of scientific interest about the people of India.
- The Anthropological Survey of India is a premier research organisation under the Ministry of Culture.
- It has headquarters at Kolkata and branches in Port Blair, Shillong, Dehra Dun, Udaipur, Nagpur, and Mysore in addition to two field stations at Jagdalpur and Ranchi.

2.3.AMU

- Context: Prime Minister addressed the centenary celebrations of Aligarh Muslim University (AMU) via video conferencing.
- On September 14, Aligarh Muslim University completed 100 years as a university.
- This makes it one of the oldest surviving universities in India
- As part of the centenary celebrations, the officials of AMU are thinking of digging out the time capsule buried in the premises 143 years ago on the foundation day of the Muhammadan-Anglo Oriental (MAO) College, which eventually became AMU in 1920.
- No one is aware of the exact contents of the capsule, but it is likely to reveal records of the rich history of the college at the time of its inception in 19th century.
- The India of the 19th century was characterised by a tectonic shift in the religious and social structure of the country, as reformers like Raja Ram Mohan Roy, Dayanand Saraswati, Sir Syed Ahmad Khan and others endeavored to overhaul the extant unjust systems.
- Among Hindus, this led to the Hindu Renaissance.
- And among Muslims, this produced the Aligarh Movement, which sought to reform the Muslim community and bring about changes in the educational, social and political aspects of their lives.
- The forerunner of the Aligarh Movement was Sir Syed Ahmad Khan, the founder of MAO College.
- After the British decided to reduce the usage of Persian in the functions of the state, Sir Syed felt that the salvation of the Muslims lay in the adoption of English and Western education.
- In one of his speeches in 1863, he stated: “The reason why we are so backward is that whilst we have learned in and have benefitted by the philosophy, science and arts of the antiquity, we are almost entirely ignorant of those of modern times.”
- Sir Syed himself was a product of the Mughal aristocracy, but his time in British service had made him cognizant of the importance of looking beyond traditional Islamic education.
- He began his quest by founding schools at Moradabad (1858) and Ghazipur (1863).
- A Scientific Society was established in 1864 to translate Western knowledge into local languages and to instill a scientific temper among the people.
- Sir Syed also established the Muhammedan Civil Service Fund Association to sponsor travel of Muslims to London to take the ICS exam.
- He dreamed of creating an educational institution along the lines of Oxford and Cambridge universities.
- Vehement opposition from the orthodox elements was a major obstacle for which the clergy issues five fatwas against him.
- Despite the obstacles the MAO college was established in 1877.
- Eventually, it became the Aligarh Muslim University after the AMU Act was passed in 1920.

2.4. National Film Development Corporation

- Context: The Union Cabinet approved the merger of four government film media units with the National Film Development Corporation (NFDC).
- Ministry of Information and Broadcasting announced that the Films Division, the Directorate of Film Festivals, the National Film Archives of India and the Children's Film Society, India, will be merged with the NFDC.
- The decision is taken with an aim of converging activities and resources and better coordination to ensure synergy and efficiency in achieving the mandate of the bodies.
- The Films Division, a subordinate office of the Ministry of Information and Broadcasting, was established in 1948, primarily to produce documentaries and news magazines for the publicity of government programmes and cinematic record of Indian history.
- The Children's Film Society, an autonomous organisation, was founded in 1955 under the Societies Act with the specific objective of providing children and young people value-based entertainment through the medium of films.
- The National Film Archives of India, a subordinate office of the information and broadcasting ministry, was established as a media unit in 1964 with the primary objective of acquiring and preserving Indian cinematic heritage.
- The Directorate of Film Festivals, as an attached office of the information and broadcasting ministry, was set up in 1973 to promote Indian films and cultural exchange.

What Is NFDC And What New Role Has It Acquired?

- The NFDC is a Central Public Sector Undertaking (CPSU), incorporated in 1975 with the primary objective of planning and promoting an organized, efficient and integrated development of the Indian film industry.
- As an umbrella organization, the NFDC, after the merger of the film media units, will be uniquely placed with regard to promotion, production and preservation of film content - all under one management.
- The vision of the new entity will be to ensure a balanced and focused development of Indian cinema in all its genres - feature films, including films and content for over-the-top (OTT) platforms, children's content, animation, short films and documentaries .
- The Cabinet has also approved the appointment of a "transaction advisor" and a "legal advisor" to advise on the transfer of assets and employees and oversee all aspects of the operationalization of the merger.
- This will lead to reduction in duplication of activities and direct savings to the exchequer.

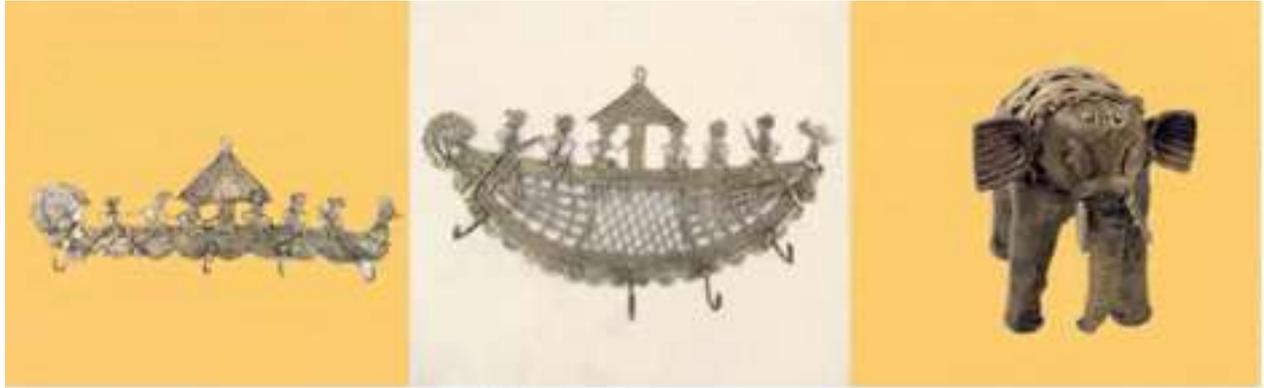
2.5. Dhokra Decorative Pieces

- Context: Dhokra products from different tribes of India were among the main items added in its 7th edition of "From Our Home to your Home" campaign on Tribes India.
- It focusses on sourcing new, natural, attractive as well as immunity-boosting tribal products and bringing them to the customer.



- 35 new products were included in the Tribes India catalogue.
- Key among them are the dhokra style metal work.
- Dhokra is a non-ferrous metal casting style which uses the lost-wax technique.
- This style of metal casting has been in vogue in all parts of India for centuries.
- The dhokra products reflect the simplicity and motifs of tribal and folk life and make for excellent gifting options.
- Hence, they are popular both in India and abroad.
- Among the dhokra products being introduced on Tribes India are attractive statues of fish, elephants and hangers in the boat jail design from the Lohra tribes of Jharkhand.
- From the Sadeibarainitribals from Odisha, Ganesha statues, including a dancing Ganesha, a mask of Goddess Durga and Lord Jagannath, a Buddha Jaali and beautiful diyas in different shapes have been sourced.
- Other products include products from the Kattunayakan tribes of Tamil Nadu. These include different variants of pure, unadulterated honey, pickles such as amla, vadu mango, ragi and types of rice.
- From the tribes of Assam, pure ghee, organic poha, pickles, raw honey have been sourced.

- All the new products introduced are available in 125 Tribes India outlets, Tribes India mobile vans and also on online platforms such as the Tribes India E-marketplace (tribesindia.com) and e-tailers.
- Many new products (immunity boosting products, produce in the Forest Fresh and Organics range and tribal arts and handicrafts) have been included in the past two months.
- The recently launched Tribes India e-marketplace, India's largest handicraft and organic products marketplace which will connect 5 lakh tribal enterprises to national and international markets, showcases tribal produce and handicrafts, making them accessible to customers across the country.



3. Polity & International Relations

Click [here](#) to watch the following questions on YouTube

3.1. Multilingual Call Centre For Aqua Farmers

- Marine Products Export Development Authority (MPEDA) has launched a multilingual call centre for aqua farmers at Vijayawada in Andhra Pradesh
- It will address their technical issues and impart knowledge about efficient farming methods by domain experts round the clock.
- India produced 7, 47,111 tonnes of shrimps last year, of which more than 6% had come from Andhra Pradesh alone from its over 52,000 shrimp farms covering a water spread area of 75,000 Ha.
- The call centre would help the farmers in Andhra Pradesh to seek advice by experienced experts for addressing their concerns and following Best Management Practices (BMPs) to boost production and ensure quality of the produce.

Marine Products Export Development Authority (MPEDA)

- The Marine Products Export Development Authority (MPEDA) was set up by an act of Parliament during 1972.
- The erstwhile Marine Products Export Promotion Council established by the Government of India in September 1961 was converged in to MPEDA on 24th August 1972.
- MPEDA is given the mandate to promote the marine products industry with special reference to exports from the country.
- The Act empowers MPEDA to regulate exports of marine products and take all measures required for ensuring sustained, quality seafood exports from the country.
- MPEDA is given the authority to prescribe for itself any matters which the future might require for protecting and augmenting the seafood exports from the country.
- It is also empowered to carry out inspection of marine products, its raw material, fixing standards, specifications, and training as well as take all necessary steps for marketing the seafood overseas.

Major Functions of MPEDA

- Registration of infrastructural facilities for seafood export trade.
- Collection and dissemination of trade information.
- Promotion of Indian marine products in overseas markets.
- Implementation of schemes vital to the industry by extending assistance for infrastructure development for better preservation and modernized processing following quality regime.
- Promotion of aquaculture for augmenting export production through hatchery development, new farm development, diversification of species and up gradation of technology
- Promotion of deep-sea fishing projects through test fishing, joint ventures and up gradation & installation of equipments to increase the efficiency of fishing.
- Market promotional activities and publicity.

3.2.CIC Reverses Own Order On Electoral Bonds

- The Central Information Commission (CIC) had in January 2020 directed the government to reveal the names of electoral bond scheme donors who wanted their identities to remain confidential.
- In a reversal of that order, it has now ruled that the disclosure of identity of such donors will not serve any larger public interest and will, in fact, violate provisions of the Act
- It was in regard with dismissal of an appeal by a Maharashtra-based activist against State Bank of India's refusal to share the information.
- The RTI applicant, had sought the information in this regard from SBI's CPIO in June, 2018, and appealed to the bank's First Appellate Authority (FAA) after being dissatisfied by the reply.
- However, the FAA also ruled that the "information related to electoral bonds issued to political parties was held by the SBI in fiduciary capacity" and that the names of the donors could not be disclosed as these fell in the bracket of 'third party information'.
- After he filed a second appeal with the CIC, as provided by the RTI Act,
 - ✓ the CIC upheld the SBI's stand, holding that "disclosure of names of donors and the donees may be in contravention of provisions contained in section 8 (1) (e) (j) of the RTI Act itself, which exempt a public authority to give a citizen information available to a person in his fiduciary relationship, unless the competent authority is satisfied that the larger public interest warrant the disclosure of such information.
- The electoral bond scheme allows citizens and corporates to buy monetary instruments from SBI and donate them to political parties, who can redeem them for money.
- Citizen groups have long been arguing that in the interest of transparency, the identity of such donors must be disclosed.
- The Central Information Commission has been constituted under the Right to Information Act, 2005.
- The jurisdiction of the Commission extends over all Central Public Authorities.

Electoral Bonds Scheme Notified

To help cleanse the political funding system in the country

Nature

- Bearer instrument in the nature of a Promissory Note
- Interest free banking instrument

Eligibility

- A citizen of India or a body incorporated in India
- On fulfillment of all the extant KYC norms
- By making payment from a bank account



Value

- Issued/ Purchased in multiples of Rs.1,000, Rs.10,000, Rs.1,00,000, Rs.10,00,000 and Rs.1,00,00,000
- Available from the Specified Branches of the State Bank of India (SBI)

Lifespan

- Shelf life of only 15 days
- Can be used for making donation only to the political parties registered u/s 29A of the Representation of the Peoples Act, 1951

Period of Purchase

- Available for purchase for a period of 10 days each in the months of January, April, July and October, as may be specified by the Government

- The Commission has certain powers and functions mentioned in sections 18, 19, 20 and 25 of the RTI Act, 2005.
- These broadly relate to adjudication in second appeal for giving information; direction for record keeping, suo motu disclosures receiving and enquiring into a complaint on inability to file RTI etc; imposition of penalties and Monitoring and Reporting including preparation of an Annual Report.
- The decisions of the Commission are final and binding.

3.3.Provisions Regarding Advisory Board For Wages Code

- The Central Information Commission has been constituted under the Right to Information Act, 2005.
- The jurisdiction of the Commission extends over all Central Public Authorities.
- The Commission has certain powers and functions mentioned in sections 18, 19, 20 and 25 of the RTI Act, 2005.
- These broadly relate to adjudication in second appeal for giving information; direction for record keeping, suo motu disclosures receiving and enquiring into a complaint on inability to file RTI etc; imposition of penalties and Monitoring and Reporting including preparation of an Annual Report.
- The decisions of the Commission are final and binding.
- It will consist of persons to be nominated by the Central government representing employers and employees, independent persons, and five representatives of such State governments as may be nominated by the Central government.
- Here, one-third of the members will be women and a member will be appointed by the Central government as the chairperson of the board.

Board's duties

- The Central Advisory Board will, from time to time, advise the Centre on issues relating to the fixation or revision of minimum wages and other related matters.
- It will suggest ways to increase employment opportunities for women, and the extent to which women may be employed in such establishments or employments as the Central government may, by notification.
- The law says the Central Advisory Board will regulate its own procedures including those of the committees and sub-committees.
- Sub-sections of Section 67 deal with rules and regulations and terms of the members of the board.
- Section 69 of the Code says the Payment of Wages Act, 1936, the Minimum Wages Act, 1948, the Payment of Bonus Act, 1965 and the Equal Remuneration Act, 1976 are being repealed.
- In July, the Centre release the draft of rules for the Code.
- One of the key provisions talks about the fixing of minimum wages.
- According to the draft, for calculating the minimum rate of wages on a day basis, six criteria can be used:
 - ✓ standard family of four (self, spouse and two children)

- ✓ net intake of 2,700 calories per day per consumption unit,
 - ✓ 66 metres cloth per year per standard working-class family
 - ✓ housing rent expenditure to constitute 10 per cent of food and clothing expenditure
 - ✓ fuel
 - ✓ electricity
- Other miscellaneous items of expenditure to constitute 20 per cent of minimum wage, and expenditure for children's education, medical requirement, recreation and expenditure on contingencies to constitute 25 per cent of minimum wage.

Draft rule proposals

- The draft proposed to divide geographical areas into three categories: metropolitan, non-metropolitan and rural.
- There is a proposal to form a technical committee to suggest, modify, add or delete particular occupations in the tentative list of four categories: unskilled, semi-skilled, skilled and highly skilled.
- The draft included 123 occupations under unskilled category comprising loader/unloader, wood cutter, office boy, cleaner, gate man, sweeper, attendants, beldar etc.
- The semi-skilled category has 127 types of occupation which include butler/cook, khalasi,, masalchi, dhobi and jamadar.
- The skilled category has 320 types of occupations including munshi, typist, book keeper, librarian, Hindi translator and data entry operator.
- The highly skilled category has 111 types of occupations, including armed security guards, head mechanics, compounder and blacksmith.

3.4.Jharkhand Launches Cyber Crime Prevention Scheme

- Context: Aiming to "protect women" from growing cybercrimes, Jharkhand government announced the launch of Cyber Crime Prevention against Women and Children Scheme (CCPWC) in the state.
- It aims to start online cyber crime registration, capacity building, awareness creation and research and development units.
- It is emphasized on police 'modernization' and the officers to make a robust system to tackle growing cybercrime.
- In the last five years, 4803 cyber crimes have surfaced in Jharkhand, out of which 1536 cases have been disposed.
- It was also decided in the meeting that students from the various schools statewide should be trained for 'community policing'.
- There are 36,000 sanctioned posts of Home Guards in Jharkhand, out of which 19000 are paid on daily basis based on their work.
- However, all don't get the work on a daily basis.

- It was decided that the government offices should explore the possibility of giving them jobs as security guards.
- The state is also planning to get trained sniffer dogs for crime prevention.



3.5. Bangladesh wants to join Trilateral Highway

- Context: For enhancing connectivity between South and South East Asia, Bangladesh has expressed interest to join the ongoing India-Myanmar-Thailand trilateral highway project.
- In the same spirit, India has requested the neighbouring country to allow connectivity from West Bengal (Hilli) to Meghalaya (Mahendraganj) via Bangladesh.
- Since India has been working towards increasing its engagements with South East Asia under its 'Act East Policy' the India-Myanmar-Thailand Trilateral Highway is one of the biggest infrastructure projects in the region.
- This highway is expected to help greatly in the transport connectivity – 1,360 km long cross border highway network and is currently under construction, expected to be completed by 2021.
- It will be linking Moreh(India) - Bagan(Myanmar) - Mae Sot(Thailand)
- India has agreed to help build two vital road sections – Kalewa-Yagyi of 120 km, and 69 bridges on the Tamu-Kyigone-Kalewa (TKK).
- From Indian side the work is going on since 2017 and is expected to be completed by 2021.
- The decision to extend the Trilateral Highway to Lao PDR and Cambodia to help deepen the India-ASEAN Relations was taken at the ASEAN-India Commemorative Summit 2012.

- To commemorate the historic significance of the road from Mujib Nagar to Nodia on Bangladesh-India border during the Liberation War, Bangladesh has proposed to name it as “Shadhinota Shorok”.
- India has also requested for one Land Port, beginning with Agartala-Akhaura and for transportation of goods from Chattogram port to the North East of India, it has proposed that its trucks use the Feni Bridge, on completion.
- It has been decided that the recently-constituted High Level Monitoring Committee headed by Secretary, Economic Relations Division from Bangladesh and the High Commissioner of India in Dhaka will regularly review the progress of the LOC Projects for their early completion.

4. Economy

Click [here](#) to watch the following questions on YouTube

4.1. Karnataka appoints Regional Commissioner to compile status of Ponzi cases

- Context: In a bid to protect the depositors' interest in Ponzi schemes run by financial companies, against whom cases have been registered, and monitor cases pending in various courts, the State government appointed Bengaluru Regional Commissioner to compile the status of all cases that have been filed in the State and coordinate with the district administration.
- The finance companies running ponzi schemes could dupe investors completely and if movable and immovable properties belonging to these companies are not attached, there is a possibility that investors' interest cannot be protected since these properties could be sold.
- Reserve Bank of India has identified 118 finance companies in the State and seeking action against them under the Karnataka Protection of Interest of Depositors in Financial Establishment Act, 2004 and Banning of Unregulated Deposit Scheme Act, 2019.
- RBI found that the action pertaining to these 118 finance companies was not at the expected level.
- In Bengaluru alone, more than a dozen Ponzi schemes, including the most recent and biggest financial fraud committed by IMA, have caused losses running into several thousand crores, affecting at least 50,000 depositors.
- The halal investment scheme run by IMA alone has affected over 30,000 investors in the State.
- The Regional Commissioner will hold monthly meetings with Deputy Commissioners and Superintendents of Police to review the developments and submit a report to the State government on pending cases against these financial companies in special courts and high courts.



Banning of Unregulated Deposit Schemes Bill
Illicit borrowing to be curbed and controlled

— KEY FEATURES OF EXISTING BILL —

-  Bans on promoting, operating, issuing advertisements or accepting deposits in any Unregulated Deposit Scheme
-  Creation of an online central database, for collection and sharing of information on deposit taking activities
-  Proper definition of "Deposit Taker" and "Deposit"
-  Adequate provisions for repayment of deposits

THE PONZI PYRAMID

Ponzi schemes, as they grow, require an exponentially larger pool of investors to replace their losses. In their ultimate form, Ponzi schemes start by taking ₹1,000 from investors, promising to double it within a month. The method of increasing their money, for each time with interest generated from other investors' input to do the same, is as follows:

- 1** In the first month, the schemer takes ₹1,000 each from the first two investors
- 2** Having pocketed the ₹2,000, the schemer needs to find 4,000 – four investors – in the second month to pay the returns promised
- 3** In the third month, he owes ₹8,000, and so has to find eight new investors. He'll have to get more than ₹1,000 from each if he wants to keep accumulating money for himself
- 4** In the next month, he'll need 16 investors and so on.
- 5** By the 10th round, the Ponzi schemer will need to find a group of 1,024 investors. By the 15th round, he would have to come up with over a quarter of a million investors

DECODING THE PONZI MUDDLE

A Ponzi scheme is a fraudulent investment operation that promises high rates of return to investors. The scheme promises investors that they will receive interest payments on their investments, but the payments are made from the investments of new investors rather than from the profits of the original investors. The scheme collapses when the number of new investors needed to pay the returns promised to existing investors is not met.

HOW TO SPOT ONE!
The Ponzi scheme is named after Charles Ponzi, who became notorious for using the technique to help him to raise money quickly during the 1920s. He was eventually arrested by offering a return on his investments that was too good to be true. He was eventually arrested because of his fraudulent activities.

THE ULTIMATE UNRAVELLING OF A PONZI SCHEME

- As soon as investors' business interests are threatened, the schemer of the scheme begins to lose the attention of investors and their money.
- The scammer will panic, taking all the remaining investment money.
- The scammer will attempt to pay the investors with a fraudulent check and the investors will start leaving, taking their money out of the scammer's hands.
- Criminals who run Ponzi schemes, such as Bernie Madoff, are often very smart and use their money to invest in high-risk investments. They are often very good at understanding market movements.

4.2. Industry bodies to ask govt to hold back implementation of new wage law

- Context: Representatives of industry bodies, including from CII and FICCI, held a meeting with the labour ministry to make a case for holding back the implementation of the new definition of wages, which would increase social security deductions and reduce the take-home pay of workers.
- The new definition of wages is part of the Code on Wages, 2019 passed by Parliament last year.
- The rules to enforce the law were also firmed up last year.
- Now, its implementation is planned from April 1, 2021 along with other three codes on industrial relations, social security and occupational health safety and working conditions.
- The new definition provides that the allowance of an employee cannot be more than 50 per cent of the total salary.
- This would increase the social security deductions like the provident fund.
- Presently, the employer and employee contribute 12 percent each towards the social security schemes run by the Employees' Provident Fund Organisation.
- At present, a large number of employers split salaries into numerous allowances to reduce social security contributions.

- This helps employees as well as employers.
- The workers' take-home pay increases while the employers reduce provident fund contribution liability.
- Restricting allowance to 50 per cent of the total pay would also increase employers payout on gratuity payments to those employees who work for more than five years in a firm.
- The gratuity is also worked out as proportion of the average pay.

CODE ON WAGES BILL, 2019

COVERAGE:

The Code will apply to all employees. The central government will make wage-related decisions for employments such as railways, mines, and oil fields, among others. State governments will make decisions for all other employments.



FLOOR WAGE:



The central government will fix a floor wage, taking into account living standards of workers and the geographical areas. The minimum wages decided by the central or state governments must be higher than the floor wage. In case the existing minimum wages fixed by the central or state governments are higher than the floor wage, they cannot reduce the minimum wages.

FIXING MINIMUM WAGE:

Minimum wages will be notified by the central or state governments based on time, or number of pieces produced and will be reviewed and revised at an interval of not more than five years. While fixing minimum wages, the central or state governments may take into account factors such as: (i) skill of workers, and (ii) difficulty of work.



PAYMENT OF WAGES:



The bill will ensure that employees getting a monthly salary are paid by the 7th of the following month. Those working on a weekly basis will be paid on the last day of the week and daily wagers should get them on the same day. It is envisaged that states will notify payment of wages to workers through digital mode.



THE OCCUPATIONAL SAFETY, HEALTH AND WORKING CONDITIONS CODE, 2019

- Introduced in Lok Sabha on July 23.
- Incorporates the essential features of 13 enactments relating to factories, mines, dock workers, building and other construction workers, plantation labour, contract labour, inter-state migrant workmen, working Journalists and other newspaper employees, motor transport workers, sales promotion employees, beedi and cigar workers, cine workers and cinema theatre workers.
- Applies to establishments employing at least 10 workers, and to all mines and docks.
- It does not apply to apprentices.
- Makes special provisions for certain types of establishments and classes of employees, such as factories, mines, and building and construction workers.
- All establishments covered by the Code must be registered with registering officers.
- Duties of employers: providing a workplace free from hazards that may cause injury or diseases; providing free annual health check-up to employees.
- Rights and duties of employees: taking care of their own health and safety; complying with safety and health standards; reporting unsafe situations to the inspector.

WORKING TIME

Past 7pm, Before 6am

Women workers, with their consent, may work past 7pm and before 6am, if approved by Centre/states.

- Work hours for different classes of establishment and employees to be provided as per rules prescribed by Centre/states.

- For overtime work, the worker must be paid twice the rate of daily wages.

WORK MANAGEMENT

6 days work

No employee may work for more than six days a week.

20 days

Workers must receive paid annual leave for at least one in 20 days of the period spent on duty.

- Employer is required to provide a hygienic work environment with ventilation, comfortable temperature and humidity, sufficient space, clean drinking water and toilets.

₹10,000 fine

If an employee violates provisions of the Code, he will be subject to a fine of up to Rs 10,000.

₹ 5 Lakh

A violation that leads to the death of an employee punishable with imprisonment of up to two years, or a fine up to Rs 5 lakh, or both.

50% fine

Courts may direct that at least 50% of such fine be given as compensation to the victim's heirs.

₹2 to 3 Lakh

For any other violation where penalty is not specified, employer is liable for Rs 2-3 lakh in penalty

THE CODE ON WAGES, 2019

- Parliament passed it on Aug 2
 - Regulates wage and bonus payments in all employment where any industry, trade, business, or manufacture is carried out.
 - Replaces Payment of Wages Act, 1936; Minimum Wages Act, 1948; Payment of Bonus Act, 1965, the Equal Remuneration Act, 1976.
 - Covers all employees. Centre will decide on matters of employees in railways, mines, oil fields, among others. States will decide on employees in other sectors.
 - Wages include salary, allowance, or any other component expressed in monetary terms.
 - Does not include bonus payable to employees or any travel allowance, among others.
 - Fixes 'floor wage' for different geographical areas. Minimum wages decided by Centre and states must be higher than the floor wage.
 - Prohibits employers from paying wages less than the minimum wages.
 - Prohibits gender discrimination in wages.
 - Centre, states can fix number of hours that constitute a normal working day.
 - Workers entitled to overtime wage, which must be at least twice the normal rate.
- ### WAGE DUE FINE
- ₹ 50,000**
Fine to an employer who pays an employee less than what's due to him/her is punishable with fine up to Rs 50K.
- ₹ 1,00,000**
2nd such offence within five yrs of the 1st instance would result in a jail term of up to 3 months or fine up to Rs 1 lakh or both.

SOURCE: PRS LEGISLATIVE RESEARCH

Curb on Chit Scams Through the Banning of Unregulated Deposit Schemes ~~Bill~~

Changes to put an end to the menace of Chit Fund Scams and other Illegal Fund Schemes

- Bill has been expanded to prevent deliberate disguising of schemes to escape provisions of the Bill**
- Protects common man against duping by illegal operators**
- Improved monitoring and transparency through an online database containing information on deposit takers**

Comprehensive Changes to the Banning of Unregulated Deposit Schemes ~~Bill~~

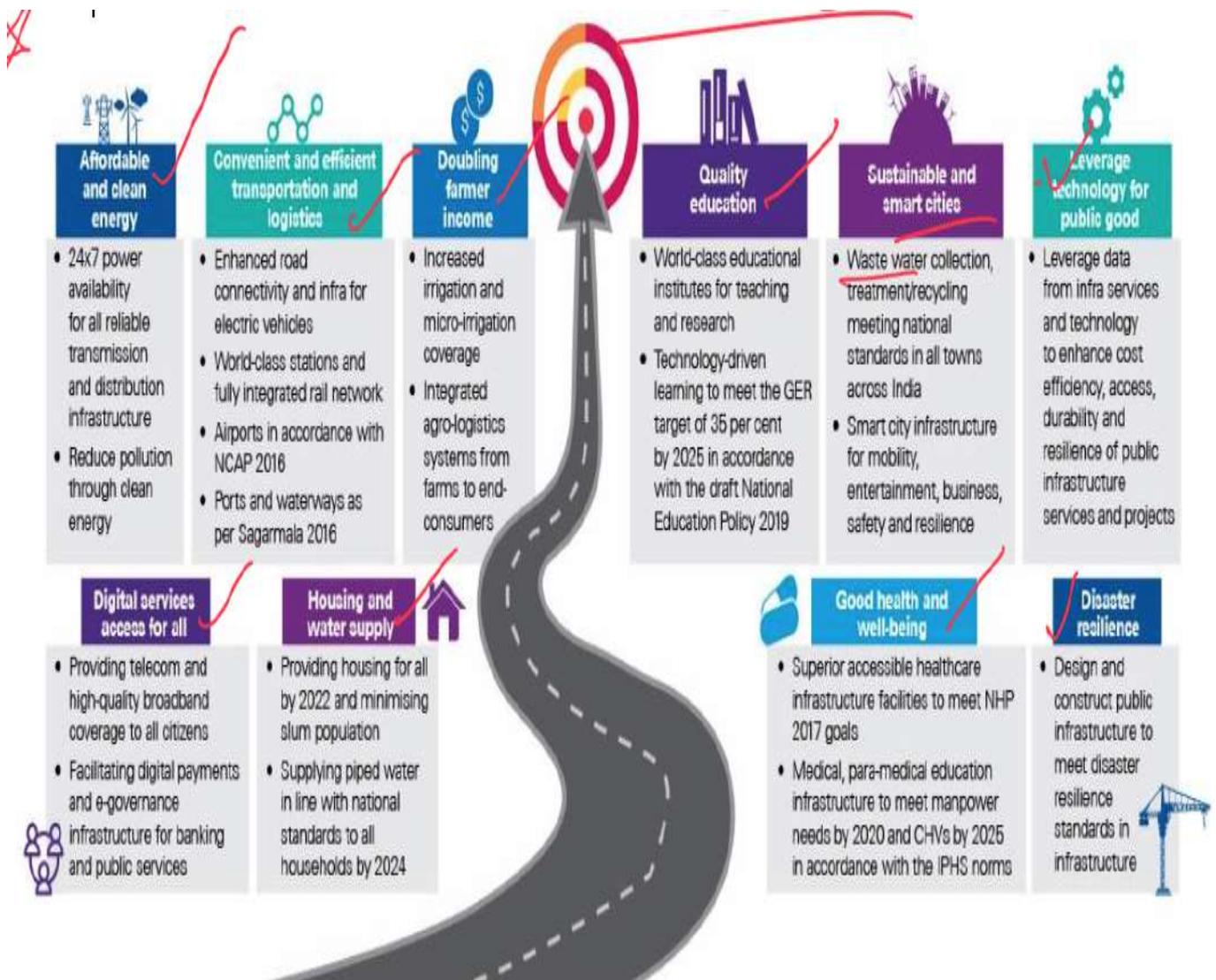
- STRICTER** Bill has been expanded to remove ambiguity and prevent duping of common people by illegal operators
- WIDER** Inclusion of names (individuals or companies) to prevent deliberate evasion of provisions of the Bill to dupe the public
- STREAMLINED** Creation of an authority (existing or new) to maintain an online database containing information on deposit takers

- This would enhance the social security benefits for workers but are not ready for it due to economic slowdown.

- The industry bodies want that the implementation should be put on hold till the economy rebounds again and buoyancy returns.
- It is also observed that the employers have been splitting salary into numerous allowances to reduce their provident fund liability.
- Meanwhile, the labour ministry has notified the enabling provisions for constitution of Central Advisory Board which is mandated to fix minimum wages and advice the government on ways to increase employment in the country.

4.3. Centre to set up development finance entity in 3-4 months

- Context: The government plans to set up a Development Finance Institution (DFI) in the next three to four months with a view to mobilise the ₹111 lakh crore required for funding of the ambitious national infrastructure pipeline.



- A DFI is needed, to provide funding, to enhance credit rating of projects
- The DFI will be catalyst and would fund projects where others are not willing to enter because of the risk involved.
- In Budget 2019, Finance Minister has proposed to set up DFIs for promoting infrastructure funding.

- About 7,000 projects have been identified under the National Infrastructure Pipeline with projected investment of Rs 111 lakh crore during 2020-2025.
- Prior to liberalisation, India had DFIs engaged in development of industry.
- ICIC and IDBI, in their previous avatars, were DFIs.
- The country's oldest financial institution IFCI. Ltd. too had acted as a DFI.

4.4. Electricity (Rights of Consumers) Rules, 2020

- Context: The government has notified the Electricity (Rights of Consumers) Rules, 2020.
- These rules serve to “empower” consumers with rights that would allow them to access continuous supply of quality, reliable electricity.
- This is because the provisions make distribution companies more accountable to consumers.
- The rules cover 11 key areas of power supply to consumers in the country, including obligations of distribution licensees, metering arrangements, release of new connections and modifications of existing connections and grievance redressal and compensation mechanisms. However, there are certain exceptions to these rules, especially where use for agricultural purposes is concerned.

Effect on consumers

- Now, as per law, states will have to implement these rules and discoms will be held more accountable for issues like delays in providing and renewing connections of electricity.
- They are also obligated to provide round-the-clock electricity to consumers, as per the Ministry of Power.
- To ensure compliance, the government will apply penalties that will be credited to the consumer's account.

The following areas are covered under the rules:

- Rights of consumers and Obligations of Distribution licensees;
- release of new connection and modification in existing connection;
- metering arrangement;
- billing and payment;
- disconnection and reconnection;
- reliability of supply;
- consumer as ‘prosumer’;
- standards of performance of licensee;
- compensation mechanism;
- call centre for consumer services; grievance redressal mechanism.

4.5. Cairn Energy wins arbitration award against India in tax dispute

- Context: British oil and gas explorer Cairn Energy Plc has won an arbitration tribunal award of \$1.2 billion plus interest and costs against the India.
- Cairn initiated arbitration to fully recover losses from the expropriation of its investments in India in 2014, continued attempts to enforce retrospective tax measures and the failure to treat the Company and its investments fairly and equitably.
- Cairn sought ₹10,570 crore (\$1.4 billion) in damages from the government to recoup the value of the Group's residual shareholding in Cairn India Limited (CIL, since merged with Vedanta Limited), which was lost when the Income Tax Department seized it and subsequently sold it (retaining the proceeds), plus a further tax refund due to Cairn in an unrelated matter which has also been seized by the IT Department.
- The arbitration tribunal panel issued an award in Cairn's favour.

Bilateral treaty

- Cairn's claim was brought under the terms of the UK-India Bilateral Investment Treaty and the proceedings were under the registry of the Permanent Court of Arbitration.
- The tribunal ruled unanimously that India had breached its obligations to Cairn under the UK-India Bilateral Investment Treaty and has awarded Cairn damages of \$1.2 billion plus interest and costs, which now becomes payable
- The arbitration (the agreed method of Treaty dispute resolution) was asked to determine if India breached its obligations under the Treaty to protect Cairn's investments in India by retroactively applying a newly enacted capital gains tax law to an internal corporate reorganisation undertaken in 2006.

Breach of obligations

- Cairn submitted that the retroactive application of a newly-enacted law is a breach by India of its obligations under the Treaty to treat Cairn and its investments fairly and equitably and to refrain from unlawfully expropriating Cairn's investments.
- The Treaty affords strong provisions to enforce a successful award and the decision of the Tribunal is final and binding on both parties.
- In September, an international arbitration tribunal ruled against India levying retrospective taxes on the Vodafone Group.
- The unexpected outcome of Cairn arbitration does not bode well for the Indian government that claims to increase the efficacy of ease of doing business in India and free trade

4.6. Don't fall prey to unauthorised digital platforms, mobile apps for quick loans, warns RBI



RBI'S 6 COMMANDMENTS TO BANKS ON DIGITAL LENDING

- Names of **digital lending platforms** engaged as agents shall be disclosed on the website of banks/NBFCs
- Digital lending platforms engaged as agents shall be **directed to disclose** upfront to the customer, the name of the bank/ NBFC on whose behalf they are interacting with him
- Immediately after sanction but before execution of the loan agreement, the **sanction letter shall be issued to the borrower** on the letter head of the bank/NBFC concerned
- A copy of the loan agreement along with a copy each of all enclosures quoted in the loan agreement shall be **furnished to all borrowers** at the time of sanction/disbursement of loans
- Effective **oversight and monitoring shall be ensured** over the digital lending platforms engaged by the banks/NBFCs
- Adequate efforts shall be made towards **creation of awareness about the grievance redressal mechanism**




- Context: The Reserve Bank of India has cautioned against unauthorised digital lending platforms or mobile apps, saying there have been reports of people falling prey to such platforms in the name of getting "loans in a quick and hassle-free manner.
- The central bank said such unauthorised digital lending platforms or mobile apps are demanding excessive rates of interests and additional hidden charges from borrowers.
- They are also adopting "unacceptable and high-handed recovery methods", and are even misusing agreements on data access regarding borrowers' mobile phones.
- RBI said legitimate public lending activities could only be undertaken by the RBI-registered banks, and non-banking financial companies (NBFCs).
- Those are regulated by the state governments, under statutory provisions, such as their money lending acts, can also indulge in lending.

- People must verify the credentials of such companies or persons before falling prey.
- Consumers should never share copies of KYC documents with unidentified persons, unauthorised apps and should report such apps to concerned law enforcement agencies or use sachet portal (sachet.rbi.org.in) to file an online complaint.
- As per the Reserve Bank guidelines, digital lending platforms used on behalf of banks and NBFCs should disclose their names upfront to the customers.
- One can find names and addresses of NBFCs registered with the RBI at cms.rbi.org.in.
- People can also file complaints against the RBI-regulated entities at this portal.

4.7. Cabinet approves 100% FDI in DTH services

- Context: The Union Cabinet approved revised guidelines for Direct-to- Home (DTH) broadcasting services, allowing 100 per cent foreign direct investment (FDI) as well as increasing the licence period to 20 years.
- Due to Govt's I&B guidelines, this field was not getting the benefit of 100 per cent FDI.
- Now after changing the guidelines, the guidelines will have the same guidelines as Commerce Ministry, and will come under 100 per cent FDI.
- Under the revised guidelines the licenses will be issued for a period of 20 years, compared to 10 years at the moment, and will be renewed for a 10-year period.
- The license fee has been revised from 10 per cent of gross revenue (GR) to 8 per cent of adjusted gross revenue (AGR), which will be calculated by deduction of GST from GR.
- Further, broadcasting firms will have to pay the license fee on quarterly basis, rather than the annual basis as of now.
- The revised guidelines "may also enable DTH service providers to invest for more coverage leading to increased operations and higher growth and thereby enhanced and regular payment.
- The government has also allowed DTH operators to share infrastructure.
- DTH operators, willing to share DTH platform and transport stream of TV channels, on voluntary basis, will be allowed
- Distributors of TV channels will be permitted to share the common hardware for their Subscriber Management System (SMS) and Conditional Access System (CAS) applications.
- Sharing of infrastructure by the DTH operators, may bring in more efficient use of scarce satellite resources and reduce the costs borne by the consumers.
- In another decision, the Cabinet also approved the merger of four of its film media units – Films Division, Directorate of Film Festivals, National Film Archives of India, and Children's Film Society, India – with the National Film Development Corporation (NFDC) Ltd.

Infrastructure Vision 2025

Meeting aspirations, propelling growth, facilitating ease of living



Affordable and clean energy

24x7 power availability; Reduce pollution through **green and clean renewable energy** and **environment friendly** fuel for transportation



Convenient and efficient transportation and logistics

Enhanced **road connectivity to remotest areas** and trunk connectivity through expressways, major economic corridors, strategic areas and tourist destinations.

World-class stations and fully integrated **rail network with inter-modal connectivity to remote regions** and close to nil accidents

Air connectivity to all Tier II and most Tier III cities

Port-led development to create **new employment opportunities**, considerable reduction in **logistic cost** with quick turnaround

High standards of living for citizens by providing **metro connectivity** in at least 25 cities



Housing and water supply for all

Zero slums due to PMAY
All households to have piped water with 24X7 supply
 Most **waste water recycled** and treated



Disaster-resilient standards compliant public infrastructure

CDRI



Doubling farmer income

Increased **irrigation (83%)** with **storage, processing and marketing** infrastructure



Good health and well being

Superior **healthcare facilities**, **electronic health records** infrastructure



Quality education

World class education and research institutes, **technology-driven** learning



Digital services: access for all

100% population coverage for telecom and **high quality broadband services** for socio-economic empowerment of every citizen; end-to-end online delivery of government services

The vision, mission and strategic goals would be towards improving the ease of living, or the physical quality of life for each individual in the country. These goals would eventually contribute to the SDG 2030 agenda to which India is a signatory. The investment in infrastructure would aim to achieve this through the aspirational standards set out in the following page.

4

4.8.GST: physical verification of premises is now mandatory

- Context: The government has introduced mandatory physical verification of business premises for the purposes of obtaining GST registration.
- This is aimed at controlling the menace of GST fake invoice frauds, was recommended by the Council's law committee.
- Now there must be in-person verification before registration is granted to an applicant.
- Further, in case an applicant opts for Aadhaar authentication, he will undergo biometric-based Aadhaar authentication at one of the facilitation Centres notified by the Commissioner.
- 'Pay 1% in cash'
- The GST Council's law committee had mooted controlling new registrations taken by applicants without business purpose.
- These measures are notified to tighten the process and will impact the menace of mushrooming fake firms and input tax credit (ITC) fraud by fly-by-night operators

- Separately, a new rule has been introduced by the Central Board of Indirect Taxes and Customs that mandates businesses with monthly turnover of over ₹50 lakh to pay at least 1% of their GST liability in cash instead of using input tax credits to discharge their entire liability.
- The validity of e-way bills has also been tweaked, doubling the distance to be covered for each day of validity, effective January 1.
- Till now, an e-way bill for transporting goods under GST allowed transporters to cover 100 km in one day.
- Now, that distance for each day of validity has been increased to 200 km.
- While four days were granted in terms of e-way bill validity to cover 400 km, going forward, only two days will be granted for the same distance.

4.9. India challenges Vodafone arbitration ruling in Singapore court

- India has appealed against the Vodafone tax arbitral award before a Singapore court
- The tax dispute involves an amount of approximately \$2 billion.
- In September, an international arbitration tribunal in The Hague had ruled that India's tax demand from Vodafone based on a retrospective legislation was in the 'breach of the guarantee of fair and equitable treatment' guaranteed under the India-Netherlands Bilateral Investment Treaty.
- The Indian government had 90 days to appeal.
- The issue of retrospective taxation first came to public attention when the government pursued what it described as a 'test case' against Vodafone, seeking to tax indirect transfers of shares in a non-Indian company.
- In January 2012, the Supreme Court unanimously found in favour of Vodafone, confirming that such transfers were not within the Indian tax remit.
- Less than two months after the apex court verdict, the Finance Ministry introduced an amendment to Section 9(1)(i) of the Income Tax Act, 1961, through Finance Bill, 2012.
- It says shares in a non-Indian company shall always be deemed to have been situated in India if their value derived substantially from underlying Indian assets.
- Describing it as 'clarificatory' in order to effectively overturn the Supreme Court's decision, the Finance Act 2012 declared that the retrospective amendment shall be deemed to have taken effect from 50 years earlier, on April 1, 1962.
- Following the amendment and action by the tax department, the tax dispute moved to the international level when Vodafone commenced arbitration proceedings and managed to defend its side.

ET GRAPHICS

THE CASE FILE The controversial tax case has a long history. Here's the story so far

The Very Long, Winding Story of Vodafone Case

THE DEAL

- In May 2007, Vodafone acquired a controlling stake in Hutchison Essar, 4th largest Indian telecom firm then
- The deal size was estimated at \$11.2 billion
- The transaction was between companies based overseas and executed in the Cayman Islands

TAX NOTICE

- Tax notice was served on Vodafone International Holdings on October 30, 2009, under Sections 201 and 201(1A) of the Income Tax Act
- The notice was for non-deduction of tax at source
- The total tax payable was determined to be ₹11,218 crore in the order dated October 22, 2010, under Sections 201 and 201(1A)
- ₹7,900 crore penalty imposed on April 29, 2011 by tax dept

BOMBAY HIGH COURT

- Vodafone filed a writ petition in Bombay HC
- The court upheld the decision of tax authorities to proceed in a September 8, 2010, order

In my view, the government should now accept this ruling and effect closure of this case as by its own philosophy, it is against retrospective amendments in tax laws... This will go a long way in giving comfort and confidence to global investors on India's commitment to honouring the rule of international law

SUDHIR KAPADIA,
National Leader (Tax), EY India

SUPREME COURT RULING

- In its January 20, 2012 ruling, the SC set aside the Bombay High Court ruling, quashing the tax and interest demand of ₹11,218 crore
- It said the subject matter of the transaction was the transfer of CGP Investments (Holdings) Ltd, a company incorporated in the Cayman Islands and Indian tax authority had no territorial tax jurisdiction
- Government filed a review petition on February 17, 2012, which the SC dismissed on March 20, 2012
- ₹2,500 crore deposited by Vodafone was returned with 4% interest as ruled by SC

Besides Tax, the tedious and time-consuming journey of this case... has a lot of lessons for all of us. This does require an introspection as to what we gained and what we lost in the whole process

VIKAS VASAL,
National Leader
Tax, Grant Thornton in India

RETROSPECTIVE AMENDMENT

- After the SC order, Parliament passed the Finance Act, 2012, retrospectively amending the law
- Section 119 of the Finance Act validated the tax
- Government claimed these were not retrospective changes but clarifying in nature – removing ambiguity and providing certainty



FRESH DEMAND

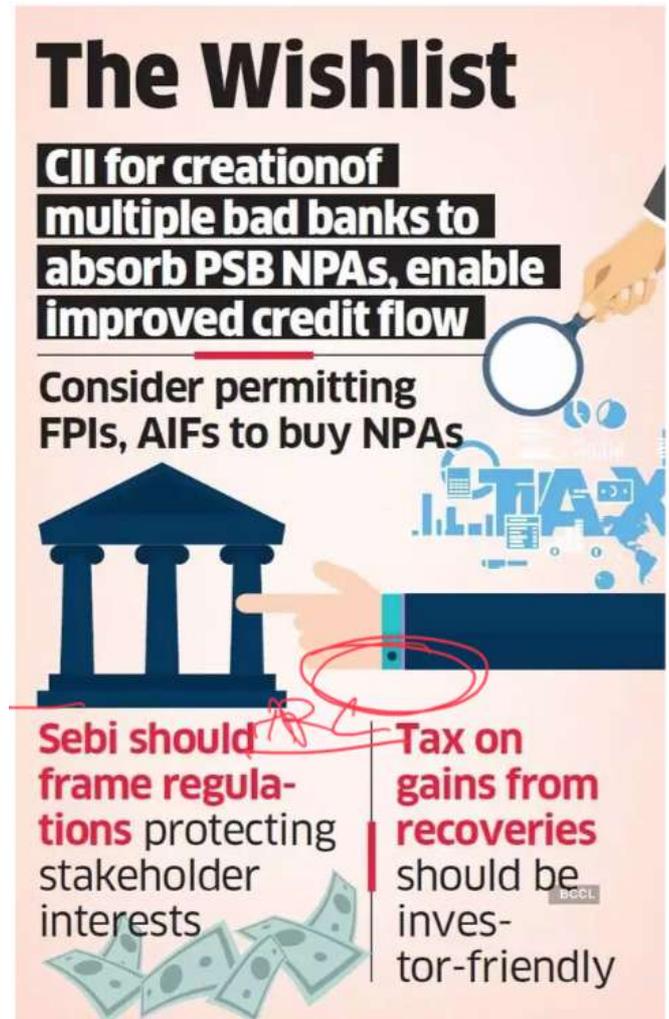
- Following the amendment, on January 3, 2013, a fresh demand was issued for ₹11,218 crore by the tax department
- Vodafone then made a request to settle the matter
- Panel formed to resolve issue did not make progress
- Vodafone invoked the bilateral tax treaty
- In April 2014, the company served arbitration notices under the India-Netherlands treaty

- New government did not roll back demand but said no fresh action under retrospective tax
- A fresh demand was issued on February 12, 2016, for ₹22,100 crore tax
- On September 25, 2020, arbitration court ruled in favour of Vodafone

4.10. Multiple bad banks needed to solve NPA problem: CII

- Context: The Confederation of Indian Industry (CII) has urged the government to consider setting up "multiple bad banks" to address the problem of mounting non-performing assets (NPAs) of state-owned lenders, which has worsened due to covid-led disruptions.
- A 'bad bank' buys the bad loans of other lenders and financial institutions to help clear their balance sheets.

- It is in line with finding a resolution mechanism through a market- determined price discovery.
- With huge liquidity, both globally and domestically, multiple bad banks can address this issue in a transparent manner and get the credit cycle back in
- In May, the Indian Banks Association (IBA) had suggested to the finance ministry and RBI to set up a bad bank.
- As part of its pre-budget recommendations, CII urged the government to consider enabling foreign portfolio investors (FPIs) and alternative investment funds (AIFs) to purchase NPAs.
- A robust market-based mechanism will encourage public sector banks to sell their bad loans without fear of questions being raised later.
- With cleaner balance sheets, PSBs should be able to raise capital from the market, obviating the need for recapitalization by the government
- The Centre has already announced recapitalization of ₹20,000 crore for this fiscal year to support state-owned lenders as the covid-19 crisis put borrowers under pressure.
- In FY20, the Centre had promised ₹70,000 crore to “boost credit for a strong impetus to the economy”.
- In 2017-18 and 2018-19, there were budgetary provisions as well as recapitalisation bonds.
- So far, most bad loans have been sold to asset reconstruction companies through the purchase of security receipts (SR)—an instrument where payment is made upon recovery.
- This indicated that the sale price is not a ‘true sale’.
- According to data on outstanding security receipts and industry estimates, the net recovery rate of ARCs is low—may be in the range of only around 10-12%.
- This represents the “non-cash” consideration received by banks against sale of loans.
- The low recovery rates and the sale on the basis of SRs is not a very attractive proposition for banks.
- The best way to achieve true price discovery and better realisations is to open the buy side and enable a clear path for capital to flow for purchase of NPA.
- According to the RBI, gross NPAs of banks may increase from 8.5% in March 2020 to 12.5% by March 2021.



4.11. Govt plans to double farm mechanisation in 10 years

MINISTRY OF AGRICULTURE & FARMERS WELFARE
GOVERNMENT OF INDIA

Making Farming More Inclusive with Agricultural Mechanization

my GOV
मेरी सरकार

Farm Machines at the door steps of farmers with Custom Hiring Centers Mobile App

Skilling of migrant labourers in Farm Mechanization through SMAM*

Under "AatmNirbhar Bharat Abhiyan" special drive for skilling migrant labourers of 116 identified districts in 6 States

India is the largest tractor manufacturer in the world with over 9 lakh units produced in 2019-20 & annual export of 92,000 units

*Sub Mission on Agricultural Mechanization

#AatmaNirbharKrishi

Date: 8 August, 2020

- Context: Government plans to double the area under mechanised farming over ten years and urged the industry to make small utility machines that can be of use for smallholder farmers in the country.
- Sub-Mission on Agricultural Mechanisation had been implemented in all the States so that they can promote the use of farm mechanisation and increase the ratio of agricultural power.
- The objective is to increase the reach of farm mechanisation to small and marginal farmers, while promoting efforts to improve the economy by promoting custom hiring centres, creating hubs for high-tech and high-value agricultural equipment, creating awareness among stakeholders and capacity building.
- Through custom hiring scheme, the government is trying to provide expensive and large advanced agricultural equipment to the farmers on rent basis.
- There is a provision of up to 40 per cent subsidy in the project cost to the individual farmer, while a group of farmers can get a subsidy up to 80 per cent, the maximum amount of which is ₹10 lakh.

- Farmers in the northeast can receive support up to 95 per cent of the project cost.
- Through the crop residue management scheme, introduced by the Union Agriculture Ministry in 2018, machinery is provided to the farmers to prevent burning of straw.
- Subsidies are also provided to farmers for purchase of machinery through a custom hiring centre.
- Farm mechanisation can improve productivity by 30 per cent and reduce the cost of farming by 20 per cent.

5. Environment

Click [here](#) to watch the following questions on YouTube

5.1. First rescue and rehabilitation centre for monkeys in Telangana.

- The first rescue and rehabilitation center for monkeys was recently launched in Telangana's northern district of Nirmal.
- The forest department has set up a campus in Chincholi village for housing up to 200 monkeys for a period of 10 to 15 days, after which they will be released in forest areas.
- Monkeys captured by Gram Panchayat will be sterilized and housed at the campus and later released in interior forest areas identified by the department.
- Adult female monkeys will undergo sterilization by laparoscopy and vasectomy will be taken up on adult male monkeys.
- That apart, they will be vaccinated and checked for diseases, if any.
- Nearly 50 percent of monkeys in the wild are found to have tuberculosis.
- The treatment will be ensured and only disease-free monkeys will be released in the wild.
- The department has spent Rs 2.25 crore in setting up the center, which is only the second such facility in the country after one presently available in Himachal Pradesh.
- It was in May 2016 that the Forest department issued orders sanctioning the setting up of a rescue and rehabilitation center for monkeys.
- In Feb 2019, Monkeys were declared vermin in Himachal Pradesh because the animals were adversely affecting crops and causing harm to humans.
- Declaring animals as vermin
 - ✓ Wildlife laws 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. Wild boars, nilgai and rhesus monkeys are Schedule II and III members – also
 - ✓ protected, but can be hunted under specific conditions. Crows and fruit bat fall in Schedule 5, the vermin category.
 - ✓ Section 11(1)a of the Wildlife Protection Act (WPA) authorizes chief wildlife warden to permit 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 or authorized officers can permit their hunting in a specified area if they have become dangerous to humans or property (including standing crops on any land).
 - ✓ Section 62 of Act empowers Centre to declare wild animals other than Schedule I & II to be vermin for specified area and period.

5.2. Leopard population

- Context: The population of leopard in India has increased by 60 per cent, according to a report released by the government.



EAT

- True carnivores that are excellent ambush predators
- Feed on anything they can overpower, from mid-size ungulates, to domestic livestock, dogs, birds, and rodents

ACTIVITY

- Mostly solitary, nocturnal creatures, also seen at dusk and dawn in forests. Entirely nocturnal close to human presence
- Territorial.
- Leopard densities can reach 5 animals per 100 sq km in densely populated human landscapes like western India

BLACK PANTHER

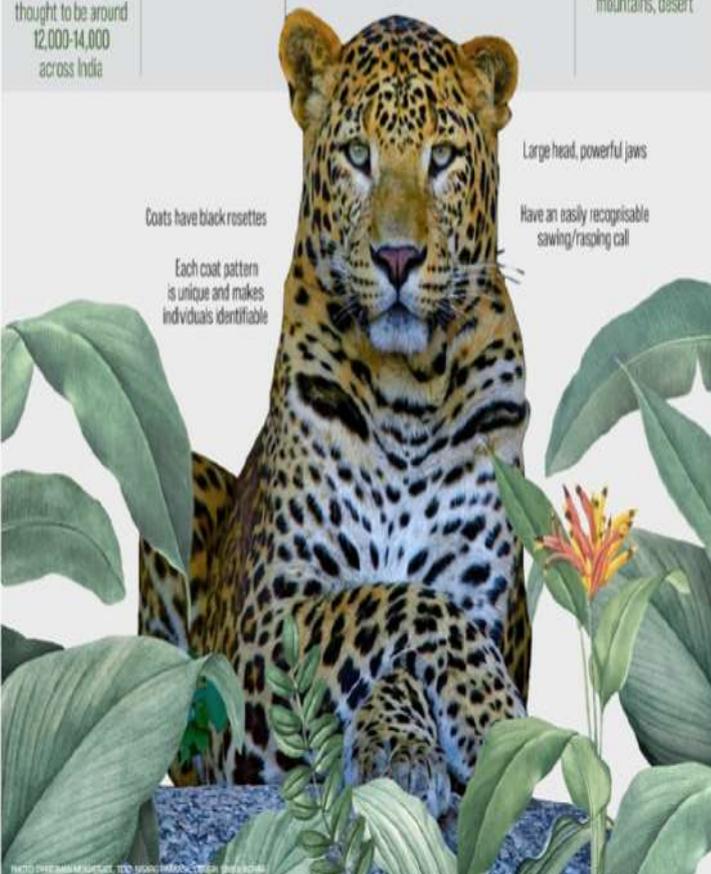
- Dark morphs or black leopards, often called black panthers, are the same species, but with recessive melanistic genes
- Spots are hidden under the dark coat

PANTHERA PARDUS FUSCA

INDIAN LEOPARD

Highly adaptable big cat can live close to humans

POPULATION around 7,910 (2014 census in surveyed areas); thought to be around 12,000-14,000 across India	WEIGHT 50-77 kg (males); 29-34 kg (females)	GEOGRAPHIC RANGE Indian subcontinent (all states), Nepal, Pakistan, Bangladesh, Bhutan, Myanmar, China	HABITAT Forest, shrubland, savanna, grassland, rocky areas, mountains, desert
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Large head, powerful jaws

Coats have black rosettes

Each coat pattern is unique and makes individuals identifiable

Have an easily recognisable sawing/roaring call

CUBS

- Females usually give birth to two cubs after a gestation period of 90-105 days
- Only the female cares for the cubs, who remain with the mother for about 1.5-2 years

AGILE CAT

- Excellent at climbing trees
- Can run down a tree head-first
- Can carry large prey up a tree to protect it from other carnivores including tigers and wild dogs

THREATS

- A TRAFFIC study reports that between 2001-2010 at least 2 leopards were killed each week for the illegal wildlife trade in India
- Population has declined by 75-90% in the last two centuries
- Poisoning and retaliatory killing
- Poaching for pelts and body parts.
- Become roadkill when roads and highways run through forests
- Conflict with livestock herders
- Hunting

PROTECTION STATUS:
VULNERABLE on the IUCN Red List

- The 'Status of Leopard in India 2018' report, released by Union environment minister said that India now has 12,852 leopards.
- More than 60 per cent increase in population has been recorded over the previous estimate which was conducted in 2014.
- States which have the highest number of leopards are MP(3,421), Karnataka(1783) and Maharashtra(1690) who have recorded the highest leopard estimates.
- Leopards are among the most adaptable carnivores, and are known to exist very close to human habitations.

- A study earlier this year had found four distinct sub-populations of leopards in India with high genetic variations - leopards of the Western Ghats, the Deccan Plateau semi-arid region, the Shivalik mountains, and the Terai region in North India.

5.3.IFFCO gas leak

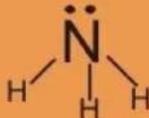
- Context: Two persons died and several took ill in a major ammonia gas leakage at the Indian Farmers Fertilizer Cooperative Limited (IFFCO) unit at Prayagraj. The victims had come in contact with the concentrated form of ammonia gas that leaked heavily from the plant.
- Ammonia is a building block for ammonium nitrate (NH_4NO_3) that is used in agriculture as a high-nitrogen fertiliser.
- Ammonia is stored for industrial use in liquid form under high pressure or in gaseous form at low temperature, as was the case in the IFFCO unit where the accident took place.

How ammonia gas affects the human body

- Ammonia, even in moderate concentration, can cause irritation to eyes, skin, nose and throat.
- Ammonia interacts immediately upon contact with moisture present in the skin, eyes, oral cavity, respiratory tract to form ammonium hydroxide, which is very caustic and disrupts the cell membrane lipids, ultimately leading to cellular destruction.
- As cell proteins break down, water is extracted, resulting in an inflammatory response that causes further damage
- Ammonia, is highly soluble in water, is found in soil, air, and water; it is naturally present in the body and secreted by the kidneys to neutralise excess acid.
- However, it is highly diluted when in the environment and does not affect the human body to a noticeable level.
- The gas is toxic and affects the lungs with a possibility of causing chemical pneumonitis – inflammation of the lung caused by aspirating or inhaling irritants.
- Instead of oxygen the person starts inhaling ammonia, causing oxygen deficiency.
- In such cases, the cause of death is always suffocation

Ammonia

Other names: trihydridonitrogen
nitrogen trihydride

Chemical structure: 

Trigonal pyramidal shape

Chemical formula: NH_3
Molar mass: 17.03 g/mol

Ammonia Properties

Physical properties:

- Colorless gas with a sharp, penetrating odor
- Boiling point of -33.35°C
- Freezing point of -77.7°C
- It is very soluble in water
- It is less dense than air, v.d.of 8.5
- It is alkaline in nature

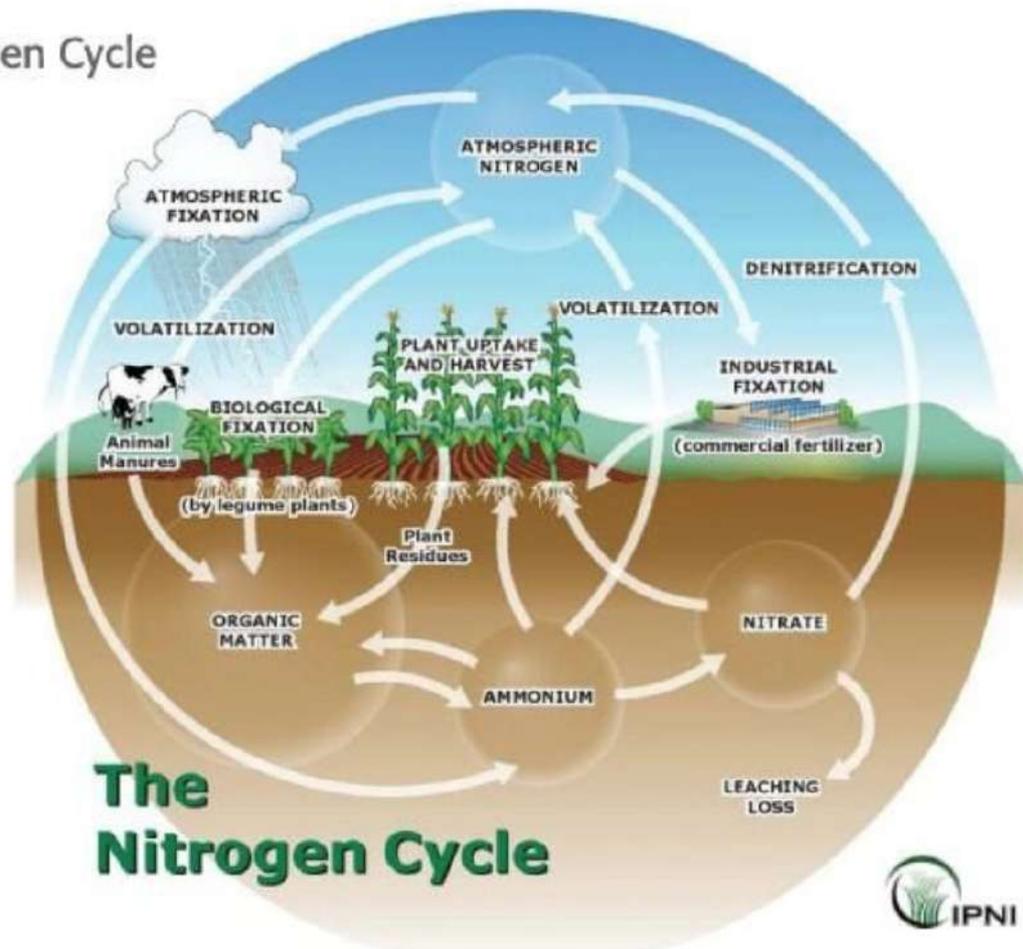
Chemical properties:

- Ammonia is a base but not a strong one
- It combines with different acids to form ammonium salts
- Easily dissolves in water to form aqueous ammonia solution, also known as ammonium hydroxide (NH_4OH)

What are main uses of ammonia?

- Ammonia is critical in the manufacturing of fertilizers, and is one of the largest-volume synthetic chemicals produced in the world.
- More than 80 per cent of ammonia made is consumed in the manufacturing of fertilizer, and most of the remainder goes into the production of formaldehyde.

Nitrogen Cycle



The Nitrogen Cycle



5.4. Air pollution killed 1.7 million Indians in 2019: Lancet report

- Context: 1.7 million Indians died due to air pollution in 2019, according to a report by interdisciplinary journal Lancet Planetary Health.
- The report 'The India State-Level Disease Burden Initiative' estimates health and economic impacts of air pollution, both from indoor and outdoor sources.
- The toll in India was 18 per cent of the total deaths in the country
- Indoor, or household, air pollution caused 64 per cent fewer deaths in the last two decades (1990-2019), according to the report.
- Outdoor air pollution, or ambient air pollution, is not only increasing but also killing more. The death rate from outdoor ambient air pollution has increased during this period by 115 per cent.
- India has lost 1.4 per cent of GDP due to premature deaths and morbidity from air pollution.
- It is equivalent to Rs 2,60,000 crore in monetary term – more than four times of the allocation for healthcare in the Union budget for 2020-21.
- Lung diseases caused by air pollution accounted for the highest share – 36.6 per cent – in the total economic losses.

According to the study

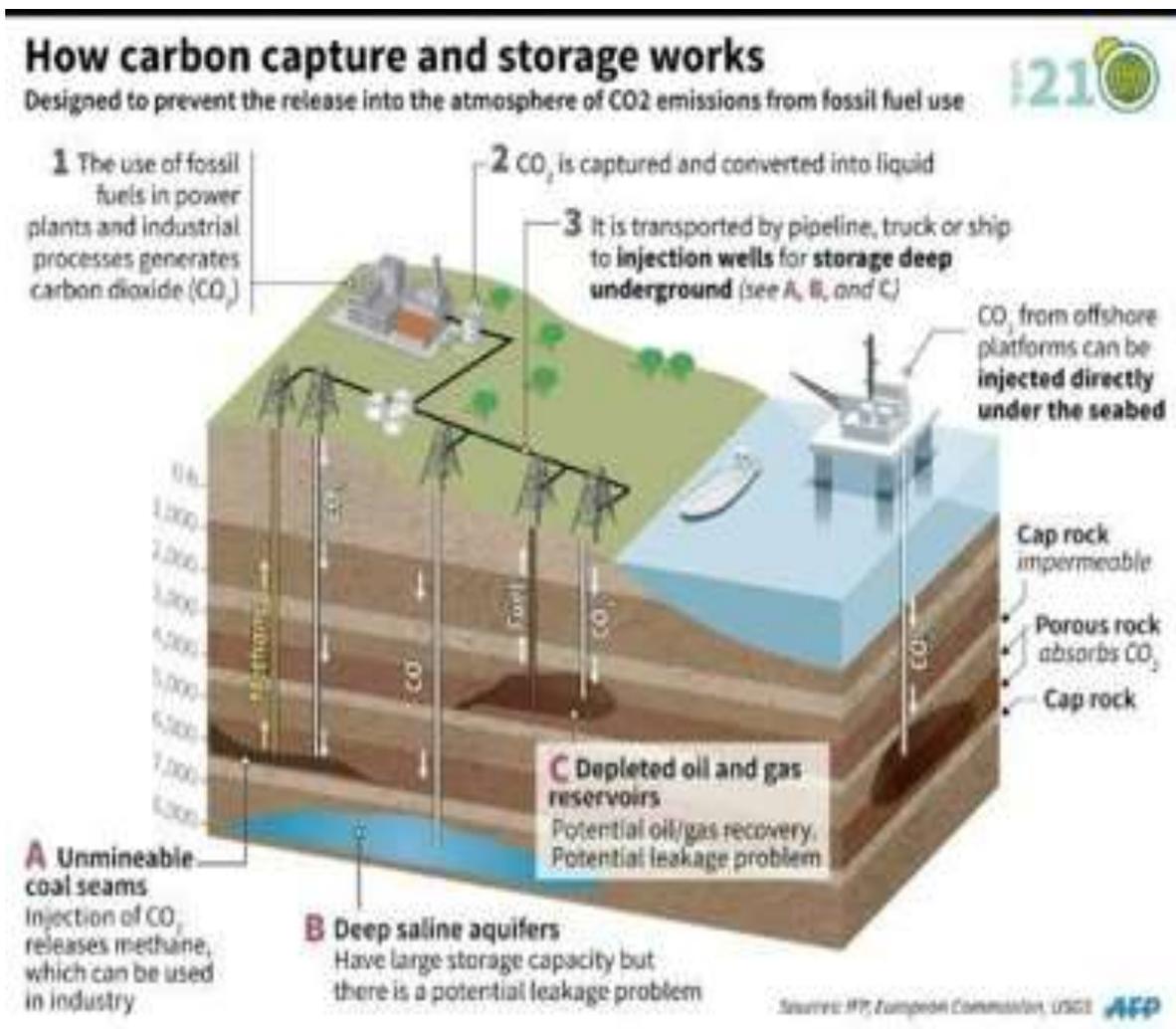
- The economic loss due to air pollution as a percentage of the state GDP was higher in the northern and central India states, with the highest in Uttar Pradesh (2.2 per cent of GDP) and Bihar (2 per cent of GDP).
- Delhi had the highest per-capita economic loss due to air pollution, followed by Haryana in 2019.
- The economic loss due to lost output from premature deaths and morbidity attributable to ambient particulate matter pollution ranged from \$9.5 million in the small northeastern state of Arunachal Pradesh to \$3188.4 million in the northern state of Uttar Pradesh.
- In term of economic losses attributable to indoor air pollution ranged, Goa had the least loss at \$7.6 million and UP the highest at \$1829.6 million.
- The economic loss due to lost output from premature deaths attributable to ambient ozone pollution ranged from \$0.4 million in
- the small northeastern state of Nagaland to \$286.2 million in Uttar Pradesh.
- Various government schemes such as the Pradhan Mantri Ujjwala Yojana and the Unnat Chulha Abhiyan have aided in reducing household air pollution in India, the benefits of which are suggested in the reducing death rate.



5.5. Carbon capture technology not on track to reduce CO₂ emissions

- Context: Global progress on the development of carbon capture and storage (CCS) technology from 2010-2020 was not on track to
- effectively control greenhouse gas (GHG) emissions and achieve net zero emissions to keep global warming below 1.5 degrees Celsius by 2050.
- CCS technology's target to restrict global warming to 2°C aims to capture 400 million tonnes of carbon dioxide (CO₂) emissions a year by 2025, but it is unlikely to be met, according to a report by International Energy Agency (IEA).

What is carbon capture utilisation and storage (CCUS)?



- CCUS technology is designed to capture CO₂ emissions from combustion of fossil fuels.
- It can absorb 85-95 per cent of CO₂ emissions in the atmosphere.
- The process starts with the capture of generated CO₂, which undergoes a compression process to form a dense fluid.

This eases the transport and storage of the captured CO₂.

- The dense fluid is transported via pipelines and then injected into an underground storage facility.
- Captured CO₂ can also be used as a raw material in other industrial processes such as bicarbonates.

Why is CCS crucial

- The United Nations Intergovernmental Panel on Climate Change's (IPCC) Special Report on Global Warming presents four scenarios for limiting global temperature rise to 1.5 degrees Celsius: All require CO₂ removal and three involve major use of CCS.
- The cement, iron and steel and chemical sectors emit carbon due to the nature of their industrial processes and high-temperature requirements.
- They are among the hardest to decarbonise. CCS can facilitate a just transition by allowing industries to make sustained contributions to local economies while moving toward net-zero.
- Enabling the production of low-carbon hydrogen at scale coal or natural gas with CCS is the cheapest way to produce low-carbon hydrogen.

Global progress on CCS

- CCS is absent from intended nationally determined contributions of most countries.
- Thus, it is clear that national policies have not accepted CCS as a promising technology.
- The cost on storage and transportation is one of the major bottlenecks for implementation of CCS.
- Looking at the importance of CCS in tackling climate change, experts are quite hopeful for the rapid development of the technology in the coming years.
- Policy support, however, will be crucial to bring the investment.

CCS in India

- Commercial availability of CCS in India depends largely on successful implementation of the technology in industrialised countries, which is currently shoddy.
- The most crucial requirement of a long-term CCS strategy for coal-based power in India is a reliable CO₂ storage capacity assessment for the country.
- At the moment, CCS technologies are not economically feasible.
- Industries, especially steel and cement, have been proactively pursuing CCS as part of their emissions reduction ambitions.
- In September 2020, an 'Industry Charter' for near zero emissions by 2050 was agreed to by six Indian companies that will explore different decarbonisation measures including carbon sequestration.
- Industries need to collaborate to bring down the cost and push such projects in India.
- For example : Tata Steel in IJmuiden, Netherlands, has launched plans for a project to capture CO₂ from its blast furnaces and transport it for storage in empty gas fields under the North Sea.
- The project is expected to lead to a 30 per cent reduction of CO₂ from the steelmaking site.
- It aims to complete the project by 2027

- It could lead to the reduction of three million tonnes of CO₂ a year in the first phase, equivalent to 1.5 million tonnes of CO₂-free steel every year or 1.3 million cars per year made from climate-neutral steel.

Indigenous innovation need support

- A small-scale CCS plant is already operational in India.
- A plant at the industrial port of Thoothukudi is capturing CO₂ from its own coal-powered boiler and using it to make baking soda.
- It will lock up 60,000 tonnes of CO₂ a year.
- The technology runs without subsidy or any other government policy support in India.
- Such projects bring hope for CCS for small industries.

Government initiative

- India's Department of Science and Technology has established a national programme on CO₂ storage research and, in August 2020, made a call for proposals to support CCS research, development, pilot and demonstration projects.
- This is part of the accelerating CCS technologies (ACT) initiative, for which India has committed one million euros to support Indian participants.
- At least 16 countries, regions and provinces are working together in ACT to fund research and development that can lead to a safe and cost-effective CCUS technology.

5.6.Uttarakhand: First tiger translocation today

- Context: The Rajaji Tiger Reserve is set to welcome the first tiger from Jim Corbett Tiger Reserve.
- It is the first such relocation in Uttarakhand aimed at tiger population management.
- A total of five big cats from the Jim Corbett Tiger Reserve – nearly eight years since conceptualisation of the project and four years after clearance from the National Tiger Conservation Authority (NTCA) – are scheduled to be translocated from Jim Corbett to Rajaji.
- The tigress which will be translocated was rescued, tranquilised and radio-collared.
- Around 100 people, including IFS officers, forest personnel, veterinary doctors and wildlife scientists, will execute the entire exercise.
- Spread over 557 sq km, Rajaji reserve has 37 tigers against a capacity of 83, and its western part spread over 380 sq km has only two tigresses –codenamed T1 and T2.
- Forest authorities do not expect any reproduction as they are aged above 18 years.

Why translocation is needed?

- The western portion of the Rajaji Tiger Reserve, which occupies more than 60 per cent of the total reserve area, has only two tigresses, presumed to be unfit for reproduction as they are above 18 years.
- Despite Rajaji having 37 tigers, the eastern part cannot boost numbers in the western portion as the two are divided by a traffic corridor which makes it difficult for the big cats to migrate.

- With this relocation, a rise in tiger numbers can be expected in the western part next year.
- An expert committee comprising forest department officials and scientists from the Wildlife Institute of India (WII) have identified two males and three females in Corbett, which has 252 tigers, for translocation.
- The five tigers are aged between 4 to 6 years and physically fit for reproduction.
- Sheds are being built for six elephants in the Motichur range of Rajaji.
- They will be used to help monitor the big cats post translocation and to prevent them from entering any areas with human population.
- The forest staff in Motichur range was put on alert and safaris in the area have also been cancelled for a day.

6. Science & Technology

Click [here](#) to watch the following questions on YouTube

6.1.Plant-based mock egg

- Context: The plant-based mock egg by a Professor, Centre for Rural Development and Technology, IIT Delhi has secured first prize at Innovate4SDG contest by 'UNDP (United Nation Development Program) Accelerator Lab India'.
- The award includes a sum of \$5000.
- According to the UNDP, the mock egg innovation will help in accelerating progress towards the SDGs.
- The development of the mock egg meets the protein needs of the diet-specific, health conscious, vegan and vegetarian people.
- This innovation addresses SDG 2 and 3 (zero hunger and good health and well-being).
- The plant based textured foods which resemble egg, fish and chicken have been developed with an aim to address malnutrition and clean protein food for people.
- The mock egg has been developed from very simple farm-based crop proteins, which not only looks and tastes like egg but also very close in nutritional profile to a poultry egg.
- Apart from the egg, the IIT Delhi scientist has also developed the meat analogues for chicken and fish from plant sources using fruits and vegetables.
- The products were tested on various parameters including appearance, taste, bite-size, texture, aroma, flavor, shelf life, nutritional profile and customer preference.

JUST LIKE THE REAL THING		
<p>MOCK MEAT</p> <ul style="list-style-type: none"> > Mung beans omelette, developed by an IIT team, wins UNDP Accelerator Lab India's Innovate4SDG contest > The team has also developed mock chicken patties and fish > Mutton, turkey, pork and beef being developed 		<p>PROCESS</p> <ul style="list-style-type: none"> > Identify plants with high-protein content > These include mung beans and Indian fruits and vegetables > Extraction of proteins from these plants in the laboratory > Testing of the extracted protein for toxicity and bio-absorbability > Checking the alternative for texture, bite-size, nutrition, aroma and taste
		

6.2.New coronavirus strain in UK

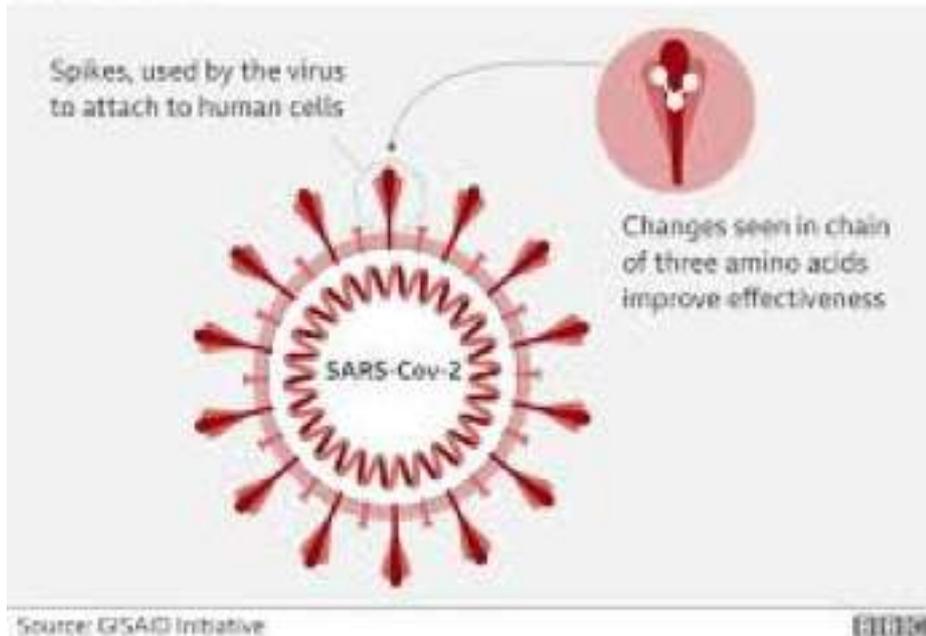
- Context: Scientists in the United Kingdom have described a newly identified variant of the coronavirus that appears to be more contagious than, and genetically distinct from, more established variants.

Is the UK variant some kind of new supervirus?

- No. It's just one variation among many that have arisen as the coronavirus SARS-CoV-2 has spread around the world.

- Mutations arise as the virus replicates, and this variant – known as B.1.1.7 – has acquired its own distinctive set of them.

One coronavirus mutation has become dominant



Will the variant render the new vaccines ineffective?

- No. Most experts doubt that it will have any great effect on vaccines, although it's not yet possible to rule out any effect.
- The U.S. Food and Drug Administration has authorized two vaccines, one from Moderna and the other from Pfizer and BioNTech.
- Both vaccines create immunity to the coronavirus by teaching our immune systems to make antibodies to a protein that sits on the surface of the virus, called spike.
- The spike protein latches onto cells and opens a passageway inside.
- Antibodies produced in response to the vaccines stick to the tip of the spike.
- The result: The viruses can't get inside.
- It is conceivable that a mutation to a coronavirus could change the shape of its spike proteins, making it harder for the antibodies to gain a tight grip on them.
- And B.1.1.7's mutations include eight in the spike gene.
- But our immune systems can produce a range of antibodies against a single viral protein, making it less likely that viruses can easily escape their attack.
- Right now, experts don't think that the variant will be able to evade vaccines.

Is it more contagious than other viruses?

- It appears so.

- In preliminary work, researchers in the U.K. have found that the virus is spreading quickly in parts of southern England, displacing a crowded field of other variants that have been circulating for months.
- However, a virus lineage becoming more common is not proof that it spreads faster than others.
- It could grow more widespread simply through luck.
- For instance, a variant might start out in the middle of a crowded city, where transmission is easy, allowing it to make more copies of itself.

here did this unusual variant come from?

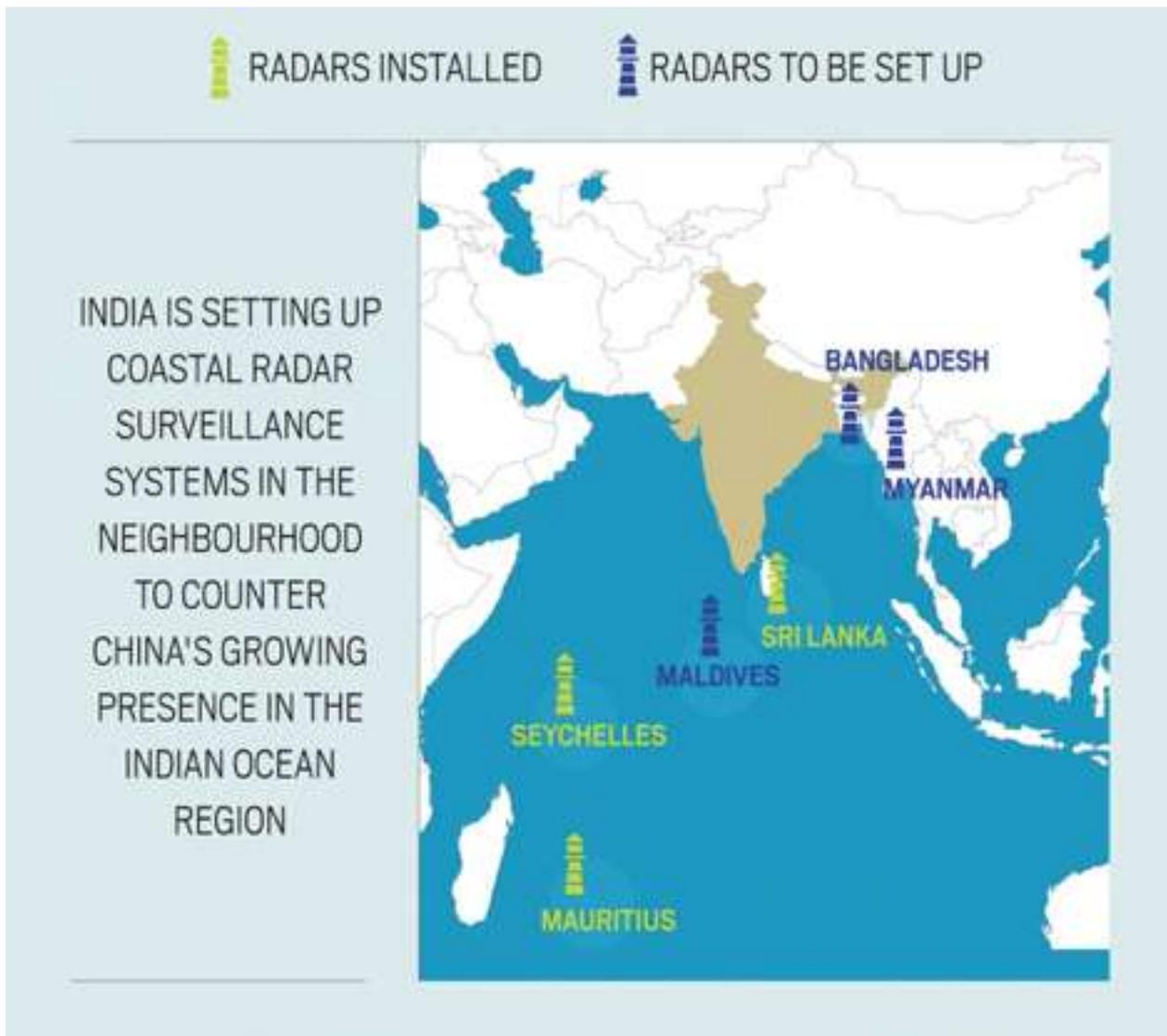
- One possibility is that the variant gained its array of new mutations inside a special set of hosts.
- In a typical infection, people pick up the coronavirus and become infectious for a few days before showing symptoms.
- The virus then becomes less abundant in the body as the immune system marshals a defense.
- Unless patients suffer a serious case of COVID-19, they typically clear the virus completely in a few weeks at most.
- Over time, researchers have found, natural selection can favor mutant viruses that can evade the immune system.

6.3.India looks at integrating more countries into coastal radar network

- Context: As part of efforts to further expand the coastal radar chain network meant to enable real time monitoring of the high seas for threats as also expand India's assistance for capacity building to Indian Ocean littoral states, efforts are in advanced stages to set up coastal radar stations in Maldives, Myanmar and Bangladesh.
- Mauritius, Seychelles and Sri Lanka have already been integrated into the country's coastal radar chain network.
- Similar plans are in the pipeline with Maldives and Myanmar and discussions are ongoing with Bangladesh and Thailand.

Nodal agency

- The Indian Navy's Information Management and Analysis Centre (IMAC) located in Gurugram which was set up after the 26/11 Mumbai terror attacks is the nodal agency for maritime data fusion.
- As part of information exchange regarding traffic on the high seas, the Navy has been authorised by the government to conclude white shipping agreements with 36 countries and three multilateral constructs.
- So far agreements have been concluded with 22 countries and one multilateral construct.
- Of these, 17 agreements and the one multilateral construct have been operationalized.

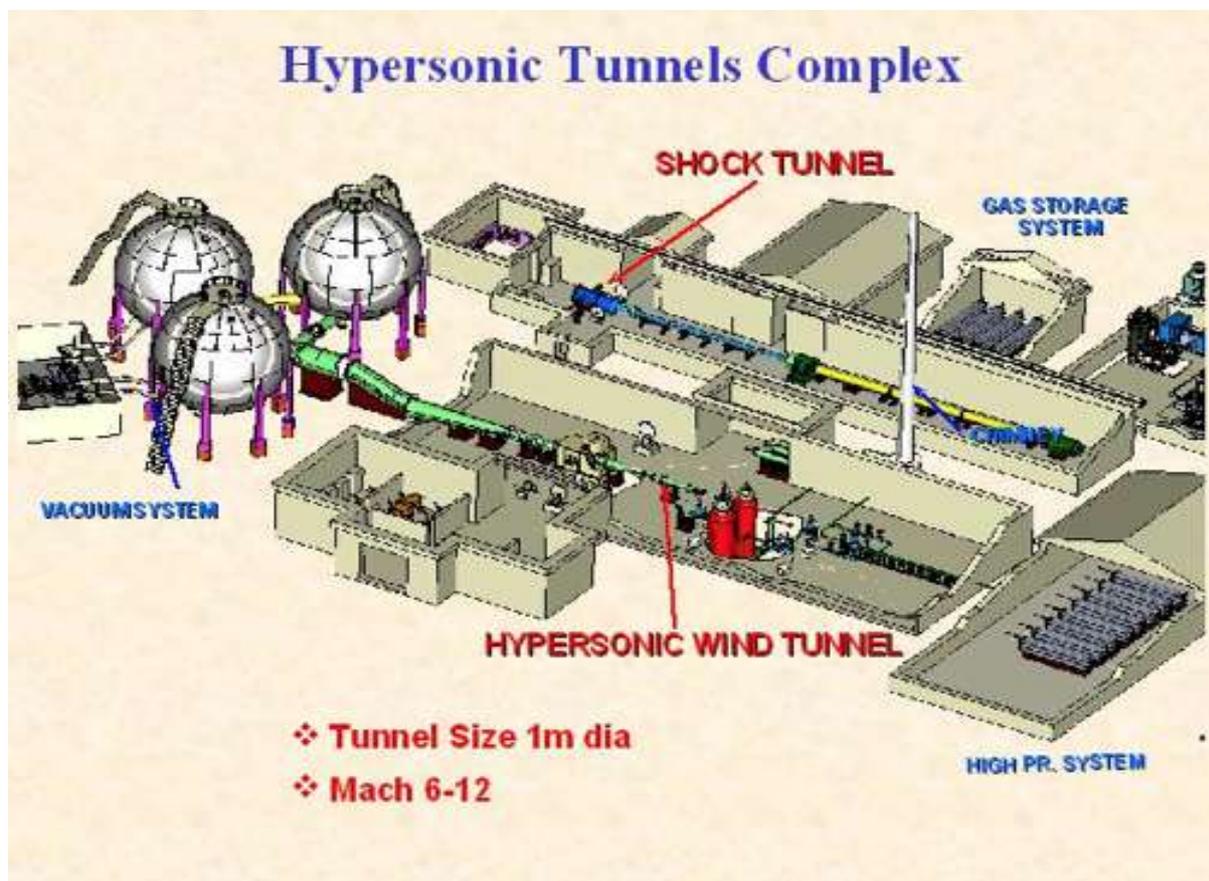


Info Fusion Centre

- At the Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR) which is meant to promote Maritime Domain Awareness, three more International Liaison Officers (ILO) are expected to join soon.
- ILOs from France, Japan and the U.S. have already joined the centre.
- IFC-IOR had established itself as the hub of maritime security information in the IOR through white shipping exchange agreements with 21 countries and 20 maritime security centres.
- ILOs from 13 countries had been invited, and three ILOs had joined the centre, with 3 more likely to join shortly.
- Under Phase-I of the coastal radar chain network, 46 coastal radar stations have been set up across the country's coastline.
- Under Phase-II of the project, which is currently under way, 38 static radar stations and four mobile radar stations are being set up by the Coast Guard and is in advanced stage of completion.

6.4.Hypersonic Wind Tunnel Test Facility

- Context: Defence Minister inaugurated the Advanced Hypersonic Wind Tunnel (HWT) test facility at the DRDO's Dr. APJ Abdul Kalam Missile Complex Hyderabad.
- The state-of-the-art HWT test facility is a pressure vacuum driven enclosed free jet facility having nozzle exit diameter of one metre.
- It will simulate Mach No. 5 to 12 speeds. (Mach represents the multiplication factor to the speed of sound.)
- India is the third country after the United States and Russia to have such a large facility in terms of size and operating capability.
- It is an indigenous development and an outcome of synergistic partnership with local industries.
- The facility has the capability to simulate hypersonic flow over a wide spectrum and will play a major role in the realisation of highly complex futuristic aerospace and defence systems.
- Foundation stone for the Explosive Test Facility for Propellant and Explosive Systems was also laid.
- This facility will be used for design validation and evaluation of missile sub-systems under different environmental conditions.
- The DRDO labs showcased various indigenously developed systems and technologies in wide ranging areas, including missiles, avionics systems, advanced materials, electronic warfare, quantum key distribution technology, directed energy weapons, Gallium Arsenide and Gallium Nitride technology capabilities.



- It has multiple capabilities including neutralizing ground targets and anti-drone applications to counter stationery as well as high-speed moving targets.
- Key features of the weapon system include secure communication link, effective recoil management system, high firing angular resolution and vision-based target detection and tracking.
- The recent successful missions by various clusters of DRDO are the Hypersonic Technology Demonstration Vehicle (HSTDV), Anti-Radiation Missile (RUDRAM), Quick Reaction Surface to Air Missile (QRSAM), Supersonic Missile Assisted Release Torpedo (SMART) and Quantum Key Distribution (QKD) technology in the last six months.

6.5. Standards For Fortification Of Processed Food Products

- Companies can fortify their products with micronutrients voluntarily
- After setting fortification standards for staples, the Food Safety and Standards Authority of India (FSSAI) has notified norms for permissible levels of micronutrients for fortifying processed food products such as breakfast cereals, biscuits, breads, etc
- Companies that make such products can fortify them with micronutrients voluntarily.
- Also, products that are high in fat, salt and sugar will be “excluded” from the fortified processed foods category.
- Fortified Processed Foods may have fortified staples as raw materials and/or fortified with permitted micronutrients and additives as specified under the Food Safety and Standards (Food Product Standards and Food Additives) Regulation, 2011

Permissible levels

- The Fortified Processed Food shall provide 15-30 per cent of the Indian adult RDA (Recommended dietary Allowance) of micronutrient, based on an average calorie intake of 600 kcal from processed foods (approximately a third of daily energy requirement for an adult).
- This has been done to ensure balanced consumption of micronutrients fortified products.
- Companies will be able to fortify the products with iron, folic acid, zinc, vitamin B12, vitamin A, among other micronutrients.
- The notification has defined the levels of these vitamins and minerals per 100 gm.
- For instance, iron levels have been set at 1.4-1.7 mg per 100 gms of cereals.
- These norms are part of the Food Safety and Standards (Fortification of Foods) First Amendment Regulations, 2020, and will come into effect from July 1, 2021.
- Similarly, permissible levels of nutrients such as iron, zinc, vitamin B1, vitamin B12 and vitamin B3 have been specified in the regulations for biscuits, rusks, breads and buns.
- Fruit juices when fortified shall contain Vitamin C at the levels of 6-12 mg per 100 ml.
- Already, many packaged food companies sell products fortified with vitamins and minerals. They will need to ensure they are in compliance with the norms.
- The FSSAI had also released a draft notification seeking stakeholder comments on making fortification with vitamin A and vitamin D mandatory for edible oils and milk.

- In 2018, FSSAI had notified standards of fortification for five staple product categories – milk, edible oil, rice, flour and salt.
- It has also launched the 'F+' logo to be displayed on labels of fortified food products for easy identification by consumers.

6.6.Mission AI Project

- Context: The government aims to provide access to high-class artificial intelligence tools and skills training for youth to make them future-ready.

Training the Future Workforce

- For this project, MeitY will be working closely with Niti Aayog, India's public think tank.
- Last year, a committee headed by the principal scientific advisor to the prime minister, K Vijayraghavan was set up to build a road map to decide the implementation of this mission.
- A budget of Rs 7,000 crore was also put forward by Niti Aayog to set up five centres of research excellence along with 20 institutional centres for transformational AI and cloud computing platform called AIRAWAT.
- MeitY also proposed a Rs 400 crore worth plan for setting up a National AI Program.
- As per the latest developments, both entities would work together to implement this mission program, and a fresh proposal drafting is underway.
- Premium institutes such as IIT will be involved in the research apart from incorporating industry inputs and collaborations.
- The government-run centres of excellence in AI, augmented reality, fintech, and agritech will all be subsumed under this mission.

Other Government Initiatives For AI Training

- The government has been actively pushing for AI-based training to bring future-readiness for the youth.
- One such initiative is the 'Responsible AI for Youth' program for students studying in classes 8-12 in central and state government schools.
- Launched to reduce the skill gap in students and make them 'AI-ready', this program will select eligible students based on online training sessions.
- Under this program, students will be taught to identify AI-based ideas and innovations that could impact social issues. 100 top ideas will be shortlisted, and these students will also get a chance to enroll in boot camps and special sessions for a deeper understanding of AI.
- This program is also closely tied with the National Education Policy that was rolled out this year.
- In another initiative for working professionals and fresh graduates, the government had launched the ai.gov.in, India's national artificial intelligence portal, last year.
- This is a repository of AI-related developments in India, including information on startups, innovations, companies, education institutions related to AI in India along with related case studies, study material, and research reports.

Top Programming Languages For Blockchain Development

- The government is also in the process of setting up its first AI-specific cloud computing infrastructure AIRAWAT based on the recommendation of the National Strategy for Artificial Intelligence (NSAI).
- This platform will accelerate and enhance research in the new and emerging technologies, specifically in the field of AI.
- With AIRAWAT, the government intends to deal with high-impact challenges that accompany a lack of access to computing resources.
- It includes: multi-user compute support, dynamic computing environment, ML/DL software stack, low latency-high bandwidth network, among others.