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for

4th Week of

December 2020

(21st December - 26th December)

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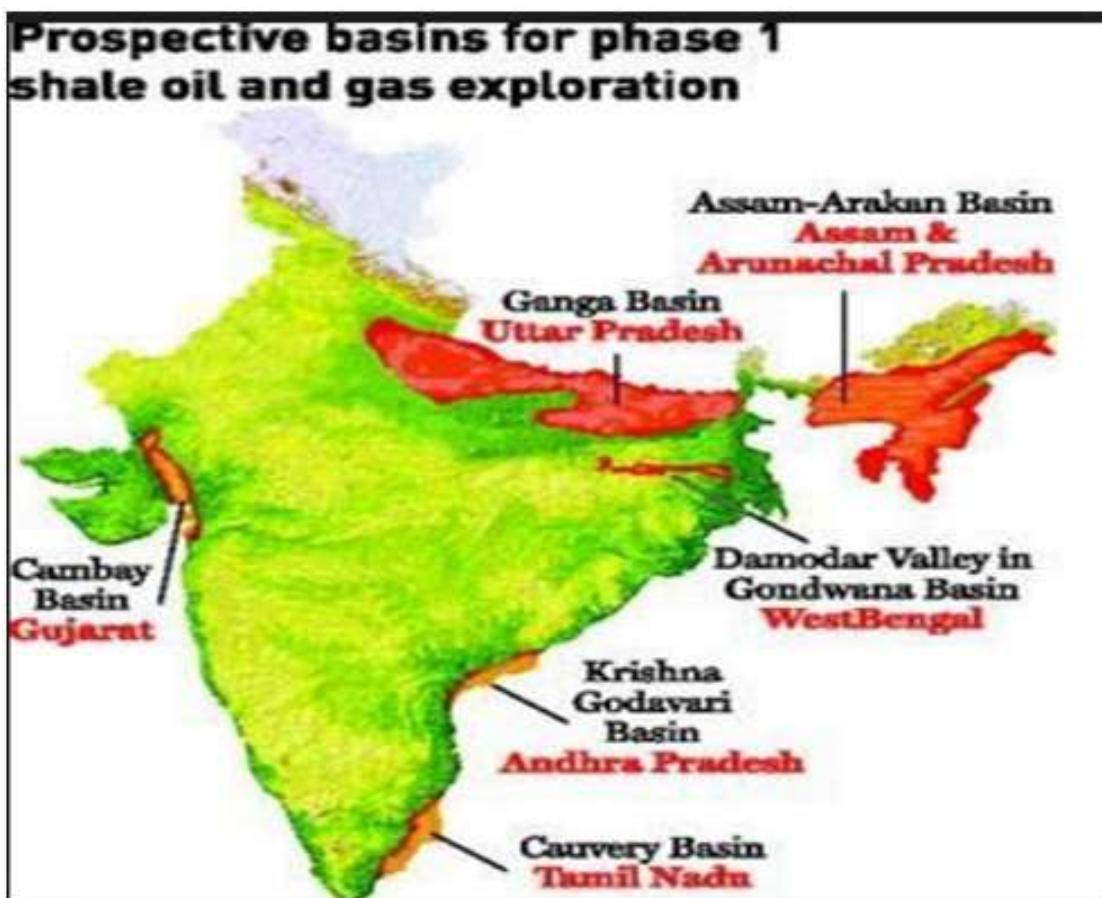
1. Geography

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1.1. First Gas from Asia's Deepest Project

- Context: Reliance Industries Limited (RIL) and BP announced the start of production from the R Cluster, ultra-deep-water gas field in KG-D6 block off the east coast of India.
- RIL and BP are developing three deep-water gas projects in KG-D6 block – R Cluster, Satellites Cluster and MJ – which together are expected to meet 15% of India's gas demand by 2023.
- RIL is the operator of KG-D6 block with a 66.67% participating interest and BP holds a 33.33% participating interest.
- R Cluster is the first of the three projects to come on stream.
- The field is located about 60 kilometers from the existing KG D6 Control & Riser Platform (CRP) off the Kakinada coast and comprises a subsea production system tied back to CRP via a subsea pipeline.
- Located at a water depth of greater than 2000 meters, it is the deepest offshore gas field in Asia.

What is KG D6 basin?



- Krishna Godavari (KG) Basin is spread across 50,000 sq km in the Krishna River and Godavari river basins near the coast of Andhra Pradesh.
- The site Dhirubhai-6 (D6) is where Reliance Industries discovered the biggest gas reserves in India.



- In government records, the 7,645 sq km block is known as KG-DWN-98/1.
- The KG basin is considered to be the largest natural gas basin in India.

How did Reliance Industries get into KG basin?

- Government of India opened up hydrocarbon exploration and production (E&P) in the country to private and foreign players in 1991.
- Small and medium sized blocks were opened up in this round which was followed up by giving out bigger blocks in 1999 as per the New Exploration and Licensing Policy (NELP).
- Through NELP, Reliance bagged the rights to explore the D6 block.

1.2.The Landless women

- Lakshadweep and Meghalaya are the best among all the 35 states and Union Territories at providing land rights to women.
- Punjab and West Bengal are the worst, according to an index created by the Bhubaneswar-based Centre for Land Governance, an arm of consultancy firm NR Management Consultants.
- The index was prepared using the data on women's operational holdings from the agriculture census of 2011, the share of adult women owning farm land from the Indian Human Development Survey of 2011-12, the share of women-headed households owning land from the Socio-economic Caste Census of 2011, and the share of women owning house and/or land (alone or jointly) from the National Family Health Survey of 2015-16.
- The index ranks states in terms of women holding land rights in percentage points.
- On average, 12.9% of Indian women hold land.
- In the southern states, 15.4% of women hold land, and in the northeast, 14.1%.
- Despite such low figures, these states outperform the northern states (9.8%), and the eastern states (9.2%).
- Secure and impartial land rights for women are crucial for a country to achieve sustainable development goals, such as ending poverty and achieving gender equality.

- The government had professed an intention to give joint titles to men and women while distributing land and home sites since the Sixth Five Year Plan (1980-85).
- But, the data shows a poor record.
- Women constitute a third (32%) of India's agricultural labour force and contribute 55-66% to farm production, according to the Food and Agriculture Organization.
- Yet, they hold only 12.8% of operational holdings in India, according to the Center for Land Governance index.

1.3.Haldibari - Chilahati railway line

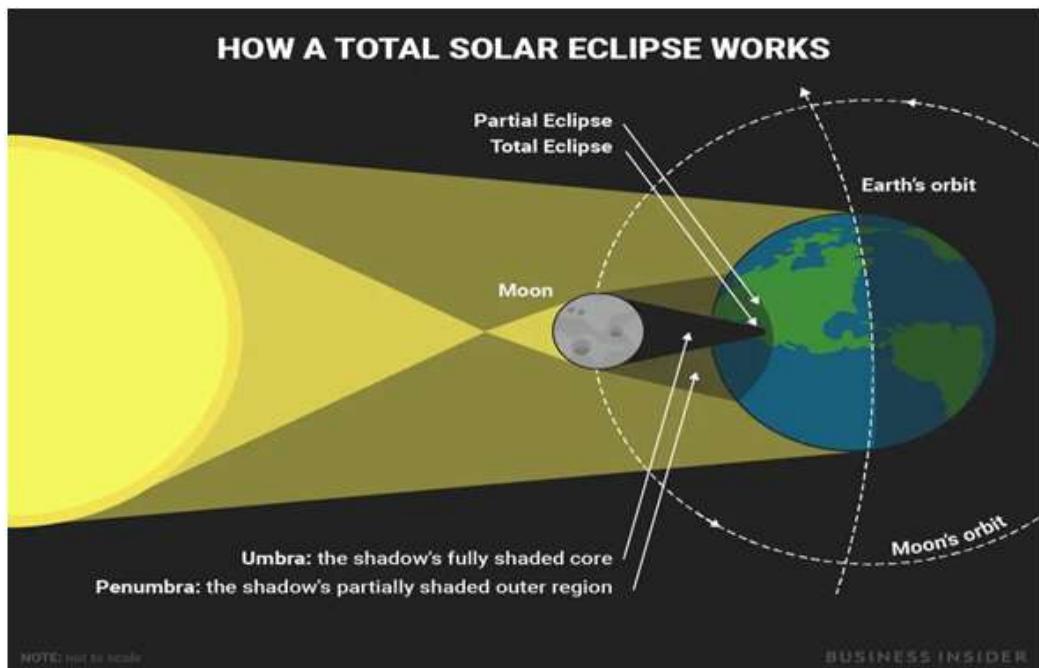
- Context: A railway link has been inaugurated recently between Haldibari and Chilahati.
- According to Indian Railways' NFR zone, after partition in the year 1947, seven rail links were operational between India and the then East Pakistan up to the year 1965.
- At present, there are four rail links that are operational between India and Bangladesh
 - ✓ Petrapole – Benapole
 - ✓ Gede – Darshana
 - ✓ Singhabad – Rohanpur
 - ✓ Radhikapur – Birol.
- The newly inaugurated Haldibari – Chilahati rail link is the fifth rail link between the two countries.
- This rail link was part of the Broad-Gauge main route from Kolkata to Siliguri during partition was operational till 1965.
- Even after partition, trains traveling to the northeastern state of Assam and North Bengal continued to travel through the then East Pakistan territory.
- However, during the war in 1965, the railway links between India and the then East Pakistan was effectively cut off.
- In pursuance of the joint declaration in the IGRM, which was held in Delhi in May 2015, the Railway Board sanctioned for construction of a new Broad-Gauge line from Haldibari railway station to Bangladesh Border for connection with Chilahati, covering a length of 3.50 km in 2016-17, to reopen this rail link.
- The national transporter, at a cost of Rs 82.72 crores, has restored the railway tracks up to the international border from Haldibari railway station.
- Accordingly, upgradation works and laying of missing tracks were undertaken by Bangladesh Railways on their side from Chilahati railway station to the international border.
- On the Bangladesh side, the existing line connecting Chilahati – Parbatipur – Santahar – Darshana is already in broad gauge.
- The newly opened railway route between Haldibari and Chilahati will be beneficial for transit into the neighbouring country, Bangladesh from the states of West Bengal and Assam.



- This rail link will enhance the accessibility of the railway network to the dry ports, main ports, and land borders to support the growth in regional trade as well as to encourage the region's economic and social development.
- Once passenger trains are planned in this route, the public of both countries will be able to reap the benefit of both passenger and goods traffic.
- Also, with this line, tourists from Bangladesh will be able to easily visit places such as Sikkim, Darjeeling, Dooars other than countries like Bhutan, Nepal, etc.
- This new rail link will also benefit the economic activities of these South Asian countries.

1.4. Solar Eclipse

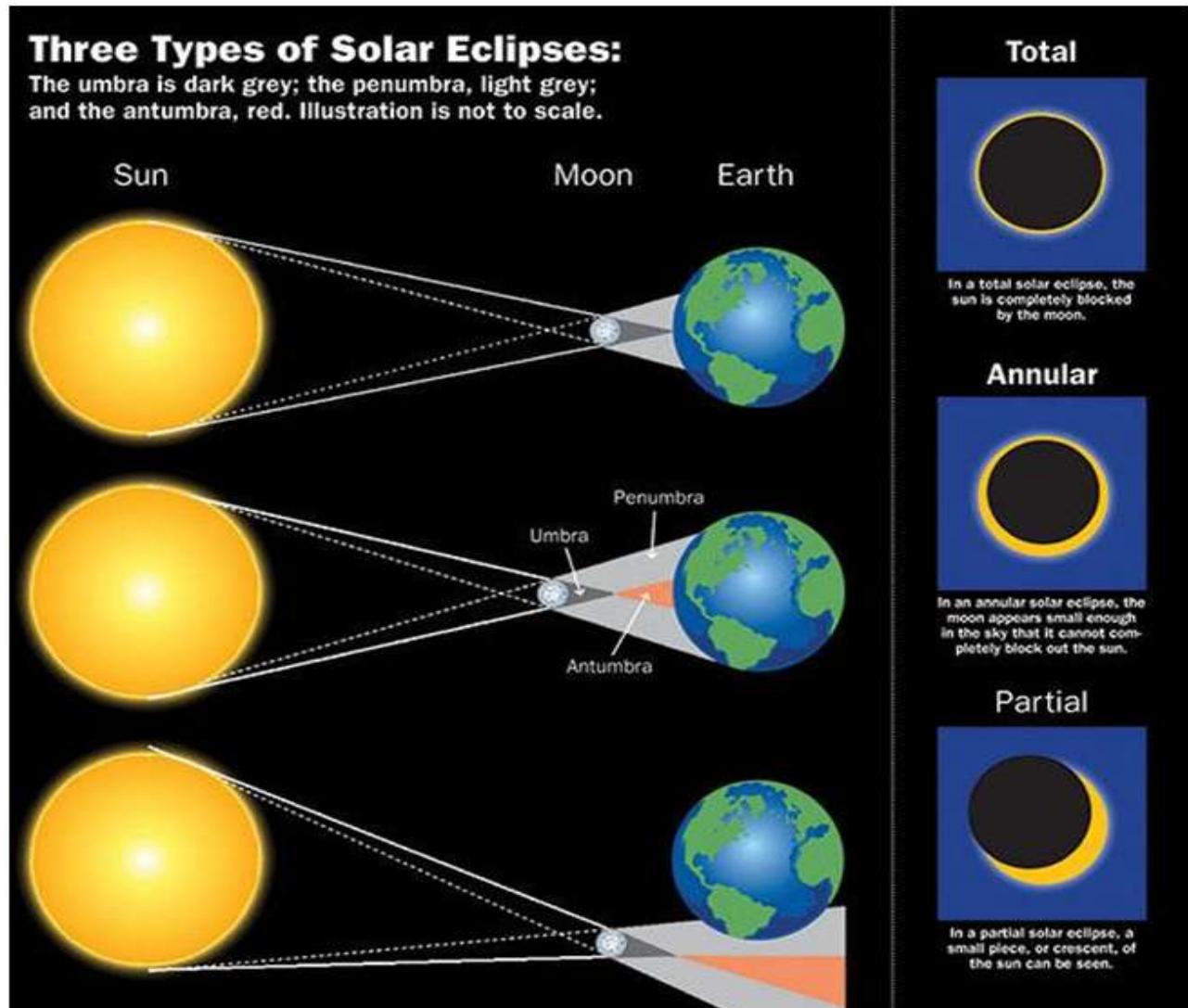
- Context: Earth witnessed its last solar eclipse of the year on December 14. The total solar eclipse was not visible from India.
- However, the total solar eclipse was visible for people living in parts of Chile and Argentina in South America.
- In southern parts of South America, South-West Africa and Antarctica, people witnessed a partial solar eclipse.
- The total solar eclipse occurs when the moon completely blocks the sun.
- The celestial event lasted for a total of two minutes and 10 seconds.



What is Annular Solar Eclipse?

- An eclipse happens when the moon while orbiting the Earth comes in between the sun and the Earth, due to which the moon blocks the sun's light from reaching the Earth, causing an eclipse of the sun or a solar eclipse.
- There are three types of eclipses: one is a total solar eclipse, which is visible only from a small area on Earth.
- According to NASA, people who are able to view the total solar eclipse are in the centre of the moon's shadow as and when it hits the Earth.
- A total solar eclipse happens when the sun, moon and Earth are in a direct line.
- The second type of a solar eclipse is a partial solar, in which the shadow of the moon appears on a small part of the sun.

- The third kind is an annular solar eclipse, which happens when the moon is farthest from the Earth, which is why it seems smaller.
- In this type of an eclipse, the moon does not block the sun completely, but looks like a “dark disk on top of a larger sun-colored disk” forming a “ring of fire”.



1.5. Geminids Meteor Shower

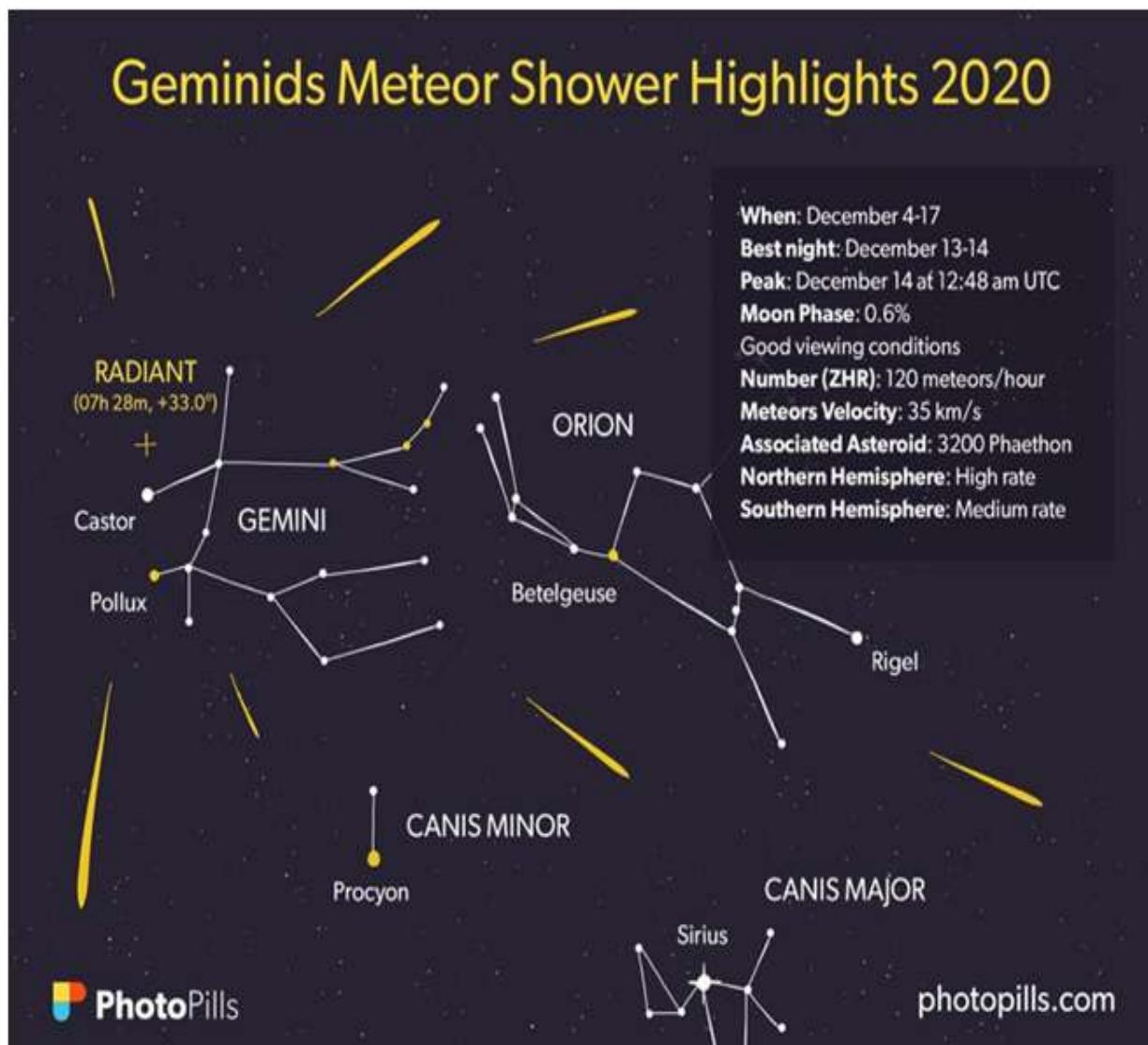
- Context: The Geminids meteor shower, believed to be the strongest of the year, was active from December 4-December 20, with December 13 and 14 considered to be the best nights for viewing these meteor showers.
- Soon after the Geminids meteor shower, viewers in the northern hemisphere can expect to see the Ursids meteor shower, which will be active from December 17-December 26 and will peak right before Christmas on the night of December 21-December 22.

What are meteor showers?

- Meteors are bits of rock and ice that are ejected from comets as they manoeuvre around their orbits around the sun.
- For instance, the Orionids meteors emerge from the comet 1P/Halley and make their yearly presence in October.



- Meteor showers are witnessed when Earth passes through the trail of debris left behind by a comet or an asteroid.



- When a meteor reaches the Earth, it is called a meteorite and a series of meteorites, when encountered at once, is termed a meteor shower.
- According to NASA, over 30 meteor showers occur annually and are observable from the Earth.
- As meteors fall towards the Earth, the resistance makes the space rocks extremely hot and, as meteorites pass through the atmosphere, they leave behind streaks of glowing gas that are visible to the observers and not the rock itself.

Why is the Geminid meteor shower considered to be the best of the year?

- The Geminids meteor showers are unique because their origin does not lie in a comet, but what is believed to be an asteroid or an extinct comet.
- The Geminids emerge from 3200 Phaethon, which meteor scientists consider to be an asteroid.
- Discovered on October 11, 1983, the asteroid is over 5 km in diameter and was named after the Greek myth of Phaethon, the son of Sun god Helios.
- According to NASA, the Geminids rate will be better this year because the shower's peak overlaps with a nearly new moon, which means there will be darker skies and no moonlight to wash out the

fainter meteors.

- While the meteors peaked on the night of December 13 to the dawn of December 14, some meteor activity may still be visible in the days before and after this peak.
- NASA says that Geminids travel at a speed of 78,000 mph or 35 km/s, which is over 1000 times faster than a cheetah, about 250 times faster than the swiftest car in the world and about 40 times faster than a speeding bullet.
- Meteors are best visible on a cloudless night and when the Moon is not extremely bright.
- Chances of a successful viewing are higher from locations far away from the lights of cities.
- Generally, pollution makes viewing meteor showers from India difficult to view.



2. History

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2.1. Centre recognises yoga as a competitive sport

- Context: Yogasana will be a competitive sport in the country, Ministries of AYUSH and Ministry of Youth Affairs and Sports have declared
- The National Board of Promotion and Development of Yoga and Naturopathy in 2019 had recommended that yogasana be recognised as a competitive sport.
- A document containing rules, regulations and syllabus for yogasana competitions had been prepared, and the technical committee had also made a list of the asanas (compulsory and optional) after research from traditional books on Yoga.
- Work for automation of the scoring system to introduce objectivity in marking has been initiated and district/ State/ national/ world championships in yogasana are proposed in 2021.
- A pilot championship of traditional yogasana by the name of 'National Individual Yogasana Sports Championship' (virtual mode) is proposed to be organized in February 2021.
- The work is currently on to develop a patented electronic scoring system for yogasana championships in India and globally, along with courses/ certification of coaches, referees, judges and directors for competitions, coaching camps for players, and broadcast-friendly packaging of the sports into leagues, shows and competitions.
- Yogasana as a sports discipline is likely to have 51 medals in four events and seven categories.
- The proposed events for both men and women include 'Traditional Yogasana', 'Artistic Yogasana (Single)', 'Artistic Yogasana (Pair)', 'Rhythmic Yogasana (Pair)', 'Free Flow/Group Yogasana', 'Individual All Round - Championship' and 'Team Championship'.
- The ultimate objective is to have yogasana included in the Olympic Games.

2.2. 60th Goa Liberation Day

- Context: Dec 18, 1961, the Indian government put into action Operation Vijay – the process to annex Goa into the Indian Republic. A 36-hour battle saw Goa liberated from the yoke of a 450-year-long colonial rule. On Dec 19, Portuguese forces surrendered unconditionally.
- On the occasion of the 60th anniversary of Liberation of Goa, a wreath-laying ceremony was organised at the naval base, INS Gomantak, at Vasco in South Goa.
- A Ceremonial Guard was paraded in honour of the brave soldiers who laid down their lives during the operation.
- President visited Goa on the state's Liberation Day and inaugurated a cultural event to mark the beginning of Goa's 60th year of liberation from 451 years of colonial Portuguese.
- The Sugam Sangeet is one of the cultural programs held on Goa Liberation Day.
- This is a form of classical vocal music that incorporates words with a different rhythm or style.

- This Indian musical genre is a poetic expression and a wonderful part of liberation celebrations for the Goan people.
- Goa has a rich and diverse history, dating back to prehistoric times.
- Prehistoric engravings at Usgalimal were discovered in the early 1990s and studied by the Institute of Oceanography in Goa.
- There is even evidence of a pre-historic Goan shamanic practice. (Shamanism is a religious practice that involves a practitioner, a master shaman, who is believed to interact with a spirit world through altered states of consciousness, such as trance)
- After various dynasties ruled Goa, the era of Portuguese autocratic rule began in 1510 after Vasco da Gama's fleet landed in Calicut, with Goa becoming the center of Portuguese control in India
- The state was under the rule of the Kadambas for 300 years and it has various monuments that were built in that era, the most famous among them Tambdi Surla.

2.3.Sheikh Mujibur Rehman

- Year 2020 marks the 100th Birth Anniversary of 'Jatir Pita' Bangabandhu, Sheikh Mujibur Rahman
- Mujibur Rahman was born on 17th March 1920 in Tungipara, India (now in Bangladesh) and passed away on 15th August 1975 in Dhaka, Bangladesh.
- He was a Bengali leader who became the first prime minister of Bangladesh (1972–75) and later became the president of the same in 1975.
- He played a crucial role in advocating political autonomy for East Pakistan, the detached eastern part of Pakistan (now Bangladesh).
- The UNESCO has decided to launch an international prize in the field of 'creative economy' in the name of Bangabandhu Sheikh Mujibur Rahman.
- Starting November 2021, the \$ 50,000 award will be given away once in two years for global economic initiatives of the youth.
- According to UNESCO, the international award will create a knowledge-sharing mechanism by capturing, celebrating and communicating best practice in the development of creative entrepreneurship.
- UNESCO has declared 2021 as 'International Year of Creative Economy for Sustainable Development'.
- Currently, there are 23 UNESCO International Awards in the name of international celebrities and organisations.

2.4.The Mamallapuram Dance Festival of 2020

- Mamallapuram also called as Mahabalipuram is a small town situated at a distance of 57 Km from Chennai in the state of Tamil Nadu.
- Mamallapuram dance festival is one of the remarkable festivals in India, completely dedicated to the traditional fine arts of the country.



- This festival is organized for about twenty days in the town of Mahabalipuram.
- The breathtaking dances are performed in ornamented stage with the historic stone sculptures range “The Arjuna Penance” as the backdrop.
- Every year Mamallapuram dance festival is commemorated by the Tourism Department of the Government of Tamil Nadu.
- Now the department has announced the commencement and conclusion of the festival for 2020. This year the event begins from 21st December to 19th January.

Historical importance of Mamallapuram

- The monuments seen today in Mamallapuram were built by the Pallava Kings who ruled this region between the 5th and 8th centuries.
- Hence Mamallapuram monuments are one of the oldest structural monuments of India built before 1700 years.
- Originally, Mamallapuram complex had more than 400 monuments. Only about 50 of them have survived till date.
- The UNESCO has declared Mamallapuram a World Heritage Site especially highlighting the three monuments namely Descent of the Ganges, Pancha Rathas and Shore Temple
- The word Mahabalipuram was initially spelled as Mamallapuram which means “Great Wrestler” to praise the King Narasimha Varman I.
- Over the period the word turned down into Mahabalipuram.

Sea Shore Temple

- The sea shore temple is also named as ‘Seven Pagodas’ by its pyramidal structure.
- This temple is entirely carved from black stone and it is the first temple. The shore temples consist two temples which are surrounded by small rocks as compound. A big Linga statue is positioned ahead of sea.
- The Shore temple catches the first rays of the Sun. There is an open space auditorium which was used for dancing and daily prayers in ancient period.
- 100 Nandhi (bull) Statues around the shore temples can be seen. Every Nandhi statue made from a single rock. Shore Temple was built using the granite stones.

Pancha rathas

- They are carved in the shape of chariots. They are entirely made out of single stone. The Pancha Rathas or Pandava Rathas are the most well-known out of all the Ratha Temples.
- They are actually dedicated to deities and concepts of the Shaivi (Shiva), Vaishnavi (Vishnu) and Shakti (Durga) traditions of Hinduism.
- Near to the Pancha Rathas an elephant and Roaring lion can be seen which is positioned in opposite directions.



The Descent of the Ganges or Arjuna's Penance

- Arjuna's Penance is a rock where the pictured creations are made from a rock. This is a single rock which is of 300 ft. length and 30 ft. in height. 150 statues have been designed on the rock itself. The statues are sculpted into gods, animals, humans.
- This place also praises Lord Shiva at north portion. At the bottom of the rock it praises Lord Vishnu statue.
- This rock also has six pillars which seem like a bone. The entire pillar is made by a single rock.



Krishna's Butter Ball

- Krishna's Butter Ball is a massive single rock which stands without any base.
- The total height of this ball is about 5 meters and weight about 250 tons (Equal to weight of medium-sized Airplane). Apart from all it is estimated that the stone stands in the place for about an impressive 1200 years.



Krishna Mandapam

- In Krishna Mandapam we can identify a statue which seems like Krishna saving the Ayarpadi people from Rain by using the Govardhan hill as an umbrella.
- Statue of Gopalar people calmly staying inside of that Govardhanagiri Hill is amazingly created. The Krishna Mandapam also has a statue of a cow feeding milk to its calf.



Ganesh Ratha Temple

- The Ratha Temple is fully created by rocks. The temple was structured by the King Narasimhavarman I. This temple praises Lord Shiva.
- The temple also has plenty of inscriptions of the period of Narasimhavarman I's grandson, Parmeshvara-Varman I.



Varaha Cave Temple

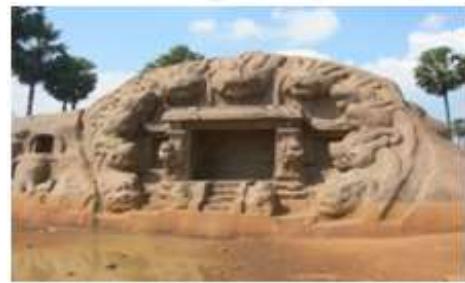
- This Varaha Cave is positioned in the south side and inside the Varaha avatharam statue. This cave contains plenty of explanations of the history of varaha avatharam (the boar avatar of Vishnu).
- Varaha cave also has a statue of Perumal sleeping peacefully over a 5 headed snakes in the sea.





Tiger Cave

- Tiger Cave is located 3 km in the north from Mahabalipuram. On center of the cave a stage is created. The stage had been used by the various artist to expose their talents.
- The tiger cave is completely sculpted with the statues of tigers hence the name Tiger cave.



2.5.The Ramanujan Prize

- The Ramanujan Prize for young mathematicians from developing countries has been awarded annually since 2005.
- It was originally instituted by ICTP, the Niels Henrik Abel Memorial Fund, and the International Mathematical Union (IMU)
- The participation of the Abel Fund ended in 2012; the Department of Science and Technology of the Government of India (DST) has now agreed to fund the Prize for a 5 year period, starting with the 2014 Prize.
- The Prize is awarded annually to a researcher from a developing country who is less than 45 years of age on 31 December of the year of the award, and who has conducted outstanding research in a developing country.
- Researchers working in any branch of the mathematical sciences are eligible.
- The Prize carries a \$15,000 cash award.
- The Prize is usually awarded to one person but may be shared equally among recipients who have contributed to the same body of work.
- The Selection Committee takes into account not only the scientific quality of the research but also the background of the candidate and the environment in which the work was carried out
- The Committee in particular favours candidates who have overcome adversity to achieve distinction in mathematics.
- The year 2020 Ramanujan Prize for Young Mathematicians was awarded to Dr. Carolina Araujo, Mathematician from the Institute for Pure and Applied Mathematics (IMPA), Rio de Janeiro, Brazil, in a virtual ceremony on 9th December 2020.
- Dr. Araujo, is Vice President of the Committee for Women in Mathematics at the International Mathematical Union, is the first non-Indian women mathematician to receive this prize and will be a role model for all women around the world.
- Srinivasa Ramanujan was a self-taught mathematician who contributed to the theory of numbers. Born in Erode, Tamil Nadu, in 1887
- He died on April 26, 1920, with this year marking his 100th death anniversary
- Ramanujan had obtained a scholarship for the University of Madras, but he ended up losing it because he neglected his studies in other subjects in favour of mathematics.
- Ramanujan published his first paper in the Journal of Indian Mathematical Society in 1911.

- In 1913, Ramanujan started communicating with Godfrey H Hardy, a British mathematician. This led him to obtaining a scholarship from University of Madras and a grant from Trinity College in Cambridge, after which he travelled to England and started to work on some research with Hardy.
- After his advances, especially in the field of partition of numbers, and the publication of his papers in several English as well as European journals, he was elected to the Royal Society of London in 1918.
- After contracting tuberculosis, the mathematician recovered enough in 1919 to return to India, but died the following year, without much recognition. However, the mathematics community recognized him as a genius without peer.
- *The Man Who Knew Infinity: A Life of the Genius Ramanujan* is a biography of Ramanujan, written in 1991 by Robert Kanigel and published by Washington Square Press.



3. Polity

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3.1. Three Capitals Of Andhra Pradesh

- Context: Opposition Party in Andhra Pradesh challenged the state government to conduct a referendum on the three capitals for the state plan.
- In January 2020, The Andhra Pradesh Decentralisation and Equal Development of All Regions Bill, 2020, was passed paving the way for three capitals for the state.
- Amaravati - legislative capital, Visakhapatnam - executive capital and Kurnool the judicial capital.
- Opposition is in favor of only Amravati as a single capital.
- Government argued it is against building one mega capital while neglecting other parts of the state.
- Historically recommended: According to the government, decentralisation was the central theme in recommendations of all major committees that were set up to suggest a suitable location for the capital of Andhra Pradesh.
- It had been agreed in the November 16, 1937 Sri Bagh Pact (between leaders of coastal Andhra and Rayalaseema) that two university centres should be established in Waltair (Visakhapatnam) and Anantapur in Rayalaseema, and that the High Court and Metropolis should be in the coastal districts and Rayalaseema respectively.
- In December 2010, the Justice B N Srikrishna Committee, set up to look into the demand for a Telangana state, said Rayalaseema and North Coastal Andhra were economically the most backward, and the "concentration of development efforts in Hyderabad is the key reason for demand of separate states".
- In August 2014, the K Sivaramakrishnan Committee appointed to identify locations for the new capital of AP said the state should see decentralised development, and that one mega capital city was not desirable.
- G N Rao Committee: A Committee under former IAS officer G N Rao, in its December 2019 report, recommended three capitals for balanced growth, and four regional commission rates along the lines of Karnataka.
- BCG recommendation: The government sought an opinion from the global management consulting firm Boston Consultancy Group, which on January 3, 2020, recommended that Visakhapatnam should be the seat of the Governor, Chief Minister, and all government departments, and a High Court Bench, and have provisions for a Legislative Assembly for use in an emergency; Vijayawada/ Amaravati should have the Assembly and a High Court Bench; Kurnool should have the High Court and tribunals.



- High-powered Committee: A high-power Committee appointed by the government to study the recommendations of the G N Rao Committee and the BCG suggested that the state should be demarcated into zones with separate zonal planning and development boards in order to ensure inclusive development, and that infrastructure projects focused Rayalaseema and North Coastal Andhra should be prioritised.

Major practical problems

- The government argues that the Assembly meets only after gaps of several months, and government Ministers, officers, and staff can simply go to Amaravati when required.
- However, coordinating between seats of legislature and executive in separate cities will be easier said than done, and with the government offering no specifics of a plan, officers and common people alike fear a logistics nightmare.
- The distances in Andhra Pradesh are not inconsiderable.
- Executive capital Visakhapatnam is 700 km from judicial capital Kurnool, and 400 km from legislative capital Amaravati. The Amaravati-Kurnool distance is 370 km. The time and costs of travel will be significant.
- The AP Police are headquartered in Mangalagiri, 14 km from Vijayawada, 400 km to Visakhapatnam.
- Kurnool, also does not have an airport.

3.2.Criticism of Maharashtra Shakti Bill, 2020

- Context: The Maharashtra Shakti Bill, 2020, and The Special Court and Machinery for Implementation of Maharashtra Shakti Criminal Law, 2020 – that enhance punishment for violence against women and children, and include the death penalty for some offences, which were recently passed have been criticised by prominent women's rights advocates for being "draconian" and "anti-women".

Who are the individuals and groups opposing the two Bills?

- Women and child rights groups, lawyers, activists, academics and LGBTQ+ rights activists.

SHAKTI BILL PROPOSES CONVICTS' E-REGISTRY

The proposed Act's 2 interconnected bills seek to amend sections of the IPC, CrPC and PoCSO Act, and introduce offences to curb crimes against women & children

HIGHLIGHTS	NEW LEGISLATIONS
<ul style="list-style-type: none"> ➢ Severe penalty, including death for rape, acid attack and serious sexual assault of children, and swifter punishment ➢ Set up special police teams & 36 special courts, each having a special public prosecutor ➢ Set up an online women and children offenders' registry with convicts' details and link it to the national registry of sex offenders ➢ Rape, acid attack case trials to be held in-camera 	<p>SEC 354 (E) IPC Harassment of woman by any mode of communication, including social media PENALTY 5 yrs' RI and ₹5L fine</p> <p>SEC 354 E (2) IPC Harassment by forcing to respond to 'romantic overtures by physical or electronic means' PENALTY 3 yrs' jail, ₹1L fine for 1st offence; up to 5 yrs' jail, ₹5L fine subsequently</p> <p>SEC 20A, POCSO ACT Failure to report material or object which is sexually exploitative of a child on any medium to sp! juvenile police or local police PENALTY 6 months' jail or fine or both</p>
PROPOSED IPC AMENDMENTS (PENALTIES ENHANCED)	SEC 376 Rape Life term or death SEC 326A Voluntarily causing grievous hurt by use of acid etc Life term or death, fine SEC 326B Voluntarily throwing or attempting to throw acid, etc Jail for not less than 14 years, may extend up to 20 years



What are their objections?

- It is argued that the two Bills – framed on the lines of The Andhra Pradesh Disha Act, 2019 – should have been discussed with lawyers, activists, and academics working on women's issues before they were passed by the state Cabinet.
- An amendment has been proposed to Section 375 (rape) of the IPC, to add an “explanation” that says that in cases where parties are adults and their conduct suggest there was “consent or implied consent”, a presumption of consent will be made.
- This, the activists say, “feeds into the patriarchal construct of consent and conduct of women”.
- Consensual sexual intercourse is very often used as defence by accused in cases of rape – and with such an explanation inserted into the law, proving rape will be impossible.
- Section 12 of The Special Courts and Machinery for the Implementation of Shakti Act, 2020, will punish the filing of false complaints.
- This perpetuates the patriarchal notions of viewing women with suspicion, as unworthy of being believed” – and will deter victims from reporting sexual offences.
- It is being argued that existing laws cover offences like intimidation of women through electronic media or punishment for public servants who fail to assist investigation. But these, are nugatory, and effective only in making a political statement.
- The reason for opposition to speedy delivery of justice – 15 days for investigation and one month for trial is being made as it is felt this time-frame will not be sufficient for gathering all evidence – and will become an excuse for police to not conduct a proper investigation.
- Also, a hurried investigation and trial, is likely to lead to miscarriage of justice.
- Neither the police nor the Courts have the infrastructure to comply with these time frames and the same will only result in unfair trials and more acquittals.

3.3. New Tribunal for Krishna Water Sharing Between Andhra, Telangana

- Context: Centre is considering setting up a new tribunal to decide the sharing of Krishna river water between Telangana and Andhra Pradesh.
- Alternatively, the Centre will refer the matter to the existing second Krishna Water Disputes Tribunal (KWDT-II), after obtaining legal opinion.
- The KWDT-II, headed by Justice Brijesh Kumar, in its judgment on December 30, 2010, allocated a total share of 1,001 tmc ft (thousand million cubic feet) to Andhra Pradesh, 911 tmc ft to Karnataka and 666 tmc ft to Maharashtra in Krishna river water.
- However, after the bifurcation of the combined state of Andhra Pradesh in June 2014, Telangana has been demanding revised allocation of Krishna water to the two Telugu states since they were separated.
- The Centre referred the matter to KWDT-II again under Section 89 of the AP Reorganisation Act, 2014, asking for project-wise allocation of the Krishna water, but the tribunal did not take it up, on the ground that its terms of reference did not permit the same.

- Telangana chief minister in his letter to the Centre on October 2 this year requested that the matter be referred to a new tribunal or again to KWDT-II under Inter-State River Water Disputes Act of 1956 so that fresh allocations are made to the two states.
- The publication of KWDT-II award given in 2010 was stayed by the Supreme Court in 2011 based on a petition by filed the then combined Andhra Pradesh government and after bifurcation of the state, Telangana, too, impleaded in it.
- Telangana had gone to Supreme Court in 2015 seeking setting up of a new tribunal or re-mandate KWDT-II under Section-3 of the ISRWD-1956 for reallocation of water between the two Telugu states.
- This matter is still pending in SC and so, the matter being sub-Judice, the Centre can act only after hearing from SC.
- But now, Telangana has agreed to withdraw its petition in the SC and therefore, the Centre will consider establishment of a new tribunal or alternatively refer the matter to the KWDT-II, after obtaining legal opinion.
- On the complaint lodged by the Telangana government over the alleged unauthorised expansion of Pothireddypadu Head Regulator project and construction of Rayalaseema lift irrigation scheme on Krishna river in the backwaters of Srisailam reservoir by Andhra Pradesh government, center has said any new project on the river would not be allowed.
- Andhra government has been directed not to go ahead with the Pothireddypadu or Rayalaseema lift projects until they were technically appraised and cleared by Central Water Commission and sanctioned by the apex council.
- The expansion of Kaleshwaram lift irrigation scheme on Godavari river by the Telangana government seeking to draw another three tmc ft water per day from the river was also unauthorised and should not be taken up.
- As per the agreement at the apex council meeting held on October 6, both the states should submit detailed project reports (DPRs) of new projects to the respective boards on Krishna and Godavari rivers immediately for appraisal and subsequent sanction by the apex council.

What is the Krishna river dispute, and what has been done to resolve it?

- The Krishna is an east-flowing river that originates at Mahabaleshwar in Maharashtra and merges with the Bay of Bengal, flowing through Maharashtra, Karnataka, Telangana and Andhra Pradesh.
- Together with its tributaries, it forms a vast basin that covers 33% of the total area of the four states.
- A dispute over the sharing of Krishna waters has been ongoing for many decades, beginning with the erstwhile Hyderabad and Mysore states, and later continuing between successors Maharashtra, Karnataka and Andhra Pradesh.
- In 1969, the Krishna Water Disputes Tribunal (KWDT) was set up under the Inter-State River Water Dispute Act, 1956, and presented its report in 1973.
- The report, which was published in 1976, divided the 2060 TMC (thousand million cubic feet) of Krishna water at 75 per cent dependability into three parts: 560 TMC for Maharashtra, 700 TMC for Karnataka and 800 TMC for Andhra Pradesh.



- At the same time, it was stipulated that the KWDT order may be reviewed or revised by a competent authority or tribunal any time after May 31, 2000.
- Afterward, as new grievances arose between the states, the second KWDT was instituted in 2004.
- It delivered its report in 2010, which made allocations of the Krishna water at 65 per cent dependability and for surplus flows as follows: 81 TMC for Maharashtra, 177 TMC for Karnataka, and 190 TMC for Andhra Pradesh.

After the KWDT's 2010 report

- Soon after the 2010 report was presented, Andhra Pradesh challenged it through a Special Leave Petition before the Supreme Court in 2011.
- In an order in the same year, the apex court stopped the Centre from publishing it in the official Gazette.
- In 2013, the KWDT issued a 'further report', which was again challenged by Andhra Pradesh in the Supreme Court in 2014.
- After the creation of Telangana from Andhra Pradesh in 2014, the Water Resources Ministry has been extending the duration of the KWDT.
- Andhra Pradesh has since asked that Telangana be included as a separate party at the KWDT and that the allocation of Krishna waters be reworked among four states, instead of three.
- It is relying on Section 89 of The Andhra Pradesh State Reorganisation Act, 2014, which reads:
- "89. The term of the Krishna Water Disputes Tribunal shall be extended with the following terms of reference, namely:
 - ✓ shall make project-wise specific allocation, if such allocation has not been made by a Tribunal constituted under the Inter-State River Water Disputes Act, 1956;
 - ✓ shall determine an operational protocol for project-wise release of water in the event of deficit flows.
- For the purposes of this section, it is clarified that the project-specific awards already made by the Tribunal on or before the appointed day shall be binding on the successor States.
- Maharashtra and Karnataka are now resisting this move.
- On September 3, the two states said: "Telangana was created following bifurcation of Andhra Pradesh. Therefore, allocation of water should be from Andhra Pradesh's share which was approved by the tribunal.

3.4. World Bank approves four India projects

- Context: The projects that have been approved are: Chhattisgarh Inclusive Rural and Accelerated Agriculture Growth Project (CHIRAGA); Nagaland: Enhancing Classroom Teaching and Resources Project; and Second Dam Improvement and Rehabilitation Project (DRIP-2).
- The projects support a range of development initiatives – strengthening India's social protection architecture, promoting nutrition-supportive agriculture for tribal households in Chhattisgarh, enhancing quality education in Nagaland and improving the safety and performance of existing dams

across various states in India.

- The US \$400 million Second Accelerating India's COVID-19 Social Protection Response Programme project will support India's efforts at providing social assistance to the poor and vulnerable households, severely impacted by the COVID-19 pandemic.
- This is the second operation in a programmatic series of two.
- The first operation of US \$750 million was approved in May 2020.
- It enabled immediate cash transfers to about 320 million individual bank accounts identified through pre-existing national social protection schemes under the Pradhan Mantri Garib Kalyan Yojana (PMGKY) and additional food rations for about 800 million individuals.
- The second operation will complement the expansion of India's safety net programmes to create a portable social protection platform ensuring food and cash support for poor households, urban migrants, and unorganised sector workers across state boundaries
- The US \$250 million Second Dam Improvement and Rehabilitation Project (DRIP-2) will improve the safety and performance of existing dams across various states of India and will strengthen dam safety by building dam safety guidelines; bring in global experience; and introduce newer technologies.
- Nagaland: Enhancing Classroom Teaching and Resources Project (US \$68 million) will improve classroom instruction; create opportunities for the professional development of teachers; and build technology systems to provide students and teachers with more access to blended and online learning as well as allow better monitoring of policies and programs.
- CHIRAG project will develop sustainable production systems that allow tribal households in remote areas of Chhattisgarh to practice round-the-year production of diversified and nutritious food.
- It will be implemented in the southern tribal-majority region of the state where a large population is undernourished and poor.
- The project will benefit over 180,000 households from about 1,000 villages in eight districts of Chhattisgarh, it added.

3.5.Morocco-Israel deal

- Context: Morocco has become the fourth Arab country to normalise ties with Israel in five months.
- US announced a series of normalisation agreements between Arab countries (the UAE, Bahrain, Sudan and now Morocco) and Israel bringing peace to West Asia.
- In return for Morocco's decision to establish formal ties with Israel, the U.S. has recognised Moroccan sovereignty over Western Sahara, a disputed territory in northwestern Africa, which has been under Moroccan control for decades.
- Morocco has long been campaigning internationally, using economic pressure and diplomacy, for recognition of its claims to Western Sahara.

What is the dispute?

- This large, arid and sparsely populated region that shares a border with Morocco, Algeria and Mauritania and has a long Atlantic coast was a Spanish colony.



OBJECTIVE

Improve safety and operational performance of selected dams, along with institutional strengthening with system wide management approach

OVERALL SUPERVISION

Central Water Commission (CWC)

No. DAMS

736 dams

Four (4) Project Components

SCALE

19 States, 22 State Agencies and three Central Agencies

SCHEME

State Sector with Central Component

TIMELINE

10 years (April 2020-March 2030), two Phases each of 6 years duration, 2 years overlap

BUDGET OUTLAY

US\$ 1.5 B with World Bank share US\$ 1.0 B, funding pattern; 70:30, 80:20, & 50:50

- The region is home to the Sahrawi tribe.
- In the 1970s, when international and local pressure mounted on Spain to vacate its colonies in Africa, Libya and Algeria helped found a Sahrawi insurgency group against the Spanish rule in Western Sahara.
- The Popular Front for the Liberation of Saguia el Hamra and Rio de Oro, known as the Polisario Front, started guerilla warfare against Spanish colonialists.

- In 1975, as part of the Madrid Accords with Morocco and Mauritania, Spain decided to leave the region, which was then called Spanish Sahara.
- According to the accords, Spain would exit the territory before February 28, 1976 and until then, the Spanish Governor General would administer the territory, with help from two Moroccan and Mauritanian Deputy Governors.
- The Polisario Front and Algeria opposed the agreements.
- Both Morocco and Mauritania moved troops to Western Sahara to assert their claims.
- Polisario, backed by Algeria, continued the guerilla resistance, demanding their withdrawal.
- On February 27, 1976, a day before Spain ended its presence, the Polisario Front declared the Sahrawi Arab Democratic Republic (SADR) in Western Sahara.
- The SADR has been recognised by several African countries and is a member of the African Union.

What is Morocco's claim?

- Morocco and Mauritania had laid claims to Western Sahara even when it was a Spanish colony.
- In 1974, the International Court of Justice was asked by the U.N. General Assembly to look into the legal ties, if any, that existed between Western Sahara and Morocco and Mauritania at the time of its colonisation by Spain in the 19th century.
- The court found no evidence "of any ties of territorial sovereignty" between the Western Sahara and either Morocco or Mauritania, but stated that there were "indications" that some tribes in the territory were loyal to the Moroccan Sultan.
- In its conclusion, the court endorsed the General Assembly Resolution 1541 that affirmed that to ensure decolonisation, complete compliance with the principle of self-determination is required.
- But King Hassan II of Morocco hailed the court's opinion as a vindication of Rabat's claims and moved troops across the northern border to Western Sahara.
- Mauritania joined in later.
- It set the stage for a three-way fight with the Polisario Front resisting both countries.

What's the current status of the conflict?

- The three-way conflict lasted for almost four years.
- In August 1979, Mauritania signed a peace treaty with Polisario, bringing the country's military involvement in Western Sahara to an end.
- When Mauritanian forces withdrew from the southern part of the desert that they had occupied, Morocco swiftly advanced troops.
- The war continued between Moroccan troops and the Polisario Front.
- In 1991, when a ceasefire was finally achieved, upon the promise of holding an independence referendum in Western Sahara, Morocco had taken control of about 80% of the territory.
- The war had forced almost 200,000 Sahrawis to flee the territory to neighbouring Algeria, where Polisario is running squalid refugee camps.



- The SADR is operating largely from the eastern flank of Western Sahara and the refugee camps.
- Moroccan troops have built a huge sand wall called Berm, from the Atlantic coast of Western Sahara to the mountains of Morocco, dividing the territories they control from that of Polisario.
- “It's Africa's last colony”, according to Polisario fighters.

What impact will the Israel deal have on the conflict?

- The normalisation deal between Morocco and Israel itself will not have any direct bearing on Western Sahara.
- But the concession the U.S. has given to Morocco — Washington's recognition of Moroccan occupation of Western Sahara in return for Rabat's agreement with Israel — could flare up the conflict.
- The independence referendum, promised in the 1991 ceasefire, is yet to take place.
- Last month, Morocco launched an offensive into the U.N.-controlled buffer zone between the two sides and in return, Polisario said it would resume armed conflict.
- After the US' recognition of Morocco's claim, Polisario said it would continue fighting until Moroccan troops are forced to withdraw.
- The U.S. move would upset Algeria, the biggest backer of Polisario.
- Among the countries that condemned the U.S. decision is Russia, which said the recognition of Moroccan sovereignty over Western Sahara “is a violation of international law”.

4. Economy

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

4.1. Indian Railways issues draft National Rail Plan to create capacity by 2030

- Context: In order to address the inadequacies of capacity constraints and improve its modal share in total freight ecosystem of the country, Indian Railways issued draft National Rail Plan.
- The National Rail Plan will be a common platform for all future infrastructural, business and financial planning of the Railways.
- This plan is being circulated among various Ministries for their views now.
- Railways aim to finalise the final plan by January 2021.





VISION 2024

Focusing on future growth and development

Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024

- 01 100% electrification
- 02 Multi-tracking of congested routes
- 03 Upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes
- 04 Upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes
- 05 Elimination of all Level Crossings on all GQ/GD route



Engaging different sectors for overall development!



Indian Railways

भारतीय रेल

01

For successful implementation of the National Rail Plan, the Railways will be looking to engage with Private Sector, PSUs, State Governments and Original Equipment Manufacturers (OEM)/Industries.

02

Sustained involvement of the Private Sector in areas like operations and ownership of rolling stock, development of freight and passenger terminals, development/operations of track infrastructure etc.



In effect the NRP envisages an initial surge in capital investment right up to 2030 to create capacity ahead of demand and increase the modal share of the Railways in freight by 45%.

03

Post 2030, the revenue surplus generated would be adequate to finance future capital investment and also take the burden of debt service ratio of the capital already invested. Exchequer funding of Rail projects would not be required.

04

CITY ON FAST TRACK



● National High Speed Rail Corporation Limited has floated tenders for DPR on Mumbai-Pune-Hyderabad bullet train project

● Corridor between Hyderabad-Bengaluru to be developed. This will be done by extending the Mumbai-Hyderabad line proposed earlier

● This will connect Mumbai to Chennai and help bring cities in North India closer to Hyderabad

● Nagpur-Hyderabad and Delhi-Nagpur industrial corridors will also be developed

The objective of the plan is

- To create capacity ahead of demand by 2030, which in turn would cater to growth in demand right up to 2050 and also increase the modal share of Railways from 27% currently to 45% in freight by 2030 as part of a national commitment to reduce carbon emission and to continue to sustain it. Net zero carbon emission by 2030.
- To assess the actual demand in freight and passenger sectors, a yearlong survey was conducted over hundred representative locations by survey teams spread all over the country.
- Forecast growth of traffic in both freight and passenger year on year up to 2030 and on a decadal basis up to 2050.
- Formulate strategies based on both operational capacities and commercial policy initiatives to increase modal share of the Railways in freight to 45% by 2030.
- Reduce transit time of freight substantially by increasing average speed of freight trains from present 22 Kmph to 50 Kmph.
- Reduce overall cost of Rail transportation by nearly 30% and pass on the benefits to the customers.
- Map the growth in demand on the Indian Railway route map and simulate the capacity behaviour of the network in future.
- Based on above simulation identify infrastructural bottlenecks that would arise in future with growth in demand.
- Select projects along with appropriate technology in both track work, signaling and rolling stock to mitigate these bottlenecks well in advance.



- ✓ As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as 100% electrification, multitracking of congested routes, upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes, upgradation of speed to 130 kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and elimination of all Level Crossings on all GQ/GD route.
- Future projects for implementation beyond 2024 in both track and signaling have been identified with clear cut timelines for implementation.
- Three Dedicated Freight Corridors, namely East Coast, East-West & North-South identified along with timelines. PETS survey already underway.
- Several new High Speed Rail Corridors have also been identified. Survey on Delhi-Varanasi High Speed Rail already under way.
- Assess rolling stock requirement for passenger traffic as well as wagon requirement for freight.
- Assess Locomotive requirement to meet twin objectives of 100% electrification (Green Energy) by December 2023 and also the increasing traffic right up to 2030 and beyond up to 2050.
- Assess the total investment in capital that would be required along with a periodical break up.
- Identify new streams of finance and models for financing including those based on PPP.
- For successful implementation of the National Rail Plan, the Railways will be looking to engage with Private Sector, PSUs, State Governments and Original Equipment Manufacturers (OEM)/Industries.
- Sustained involvement of the Private Sector in areas like operations and ownership of rolling stock, development of freight and passenger terminals, development/operations of track infrastructure etc.
 - ✓ Post 2030, the revenue surplus generated would be adequate to finance future capital investment and also take the burden of debt service ratio of the capital already invested.
 - ✓ Exchequer funding of Rail projects would not be required.

4.2. How Indian companies adhere to diversity requirements

- Context: The NASDAQ stock exchange in the US may soon require all companies listed on the bourse to include at least one female board member as well as one member from a racial minority group or from the LGBTQ community on their board of directors. There also are in place diversity requirements from Indian companies and their compliance with these rules.

What is the diversity requirements that Indian companies need to meet?

- All public companies which are listed on stock exchanges and companies with either a paid-up capital of Rs 100 crore or annual turnover over Rs 300 crore are required to have at least one-woman board member under the Companies Act.
- The Securities and Exchange Board of India (Sebi) further requires, since April 1, 2020, that the top 1000 listed companies by market capitalisation have a woman board member who is also an independent director.

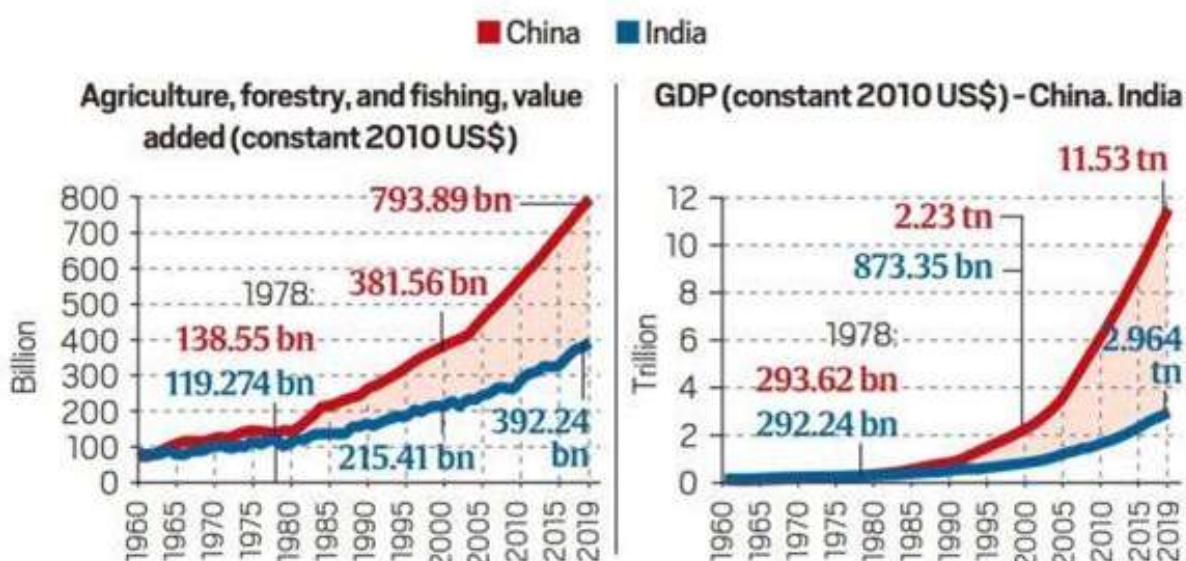
What is the level of compliance on diversity requirements by Indian companies?

- According to data compiled by Institutional Investor Advisory Services (IiAS), 17 per cent of directors in the Nifty 500 companies were women, as of the end of the last fiscal, with 44 per cent of Nifty 500 companies having two or more women directors.
- The report by IiAS noted that only 3 per cent of Nifty 500 companies had no women directors.
- Experts noted that other than some public sector enterprises (PSEs) which have lagged on the appointment of independent directors, all major companies were in compliance with the diversity requirements.
- A number of PSEs have also sought exemption from the requirement that any company without a non-executive chairman include at least 50 per cent independent directors on their board of directors as the power of appointment of directors for PSEs lies with the nodal ministry in the central government.
- It is noted that a significant number of companies had appointed relatives of promoters as directors to fulfil the requirement of a woman director and that such directors were unlikely to show the level of independence expected from a director.
- It is being argued that diversity requirement mandating a member of the LGBTQ community on the board of directors was not necessary, noting that “sexual orientation should not be an issue in appointments to the board of directors.”

4.3. How China reformed its agriculture and reduced poverty

- The current farmers protest issue:
 - The government's argument is that opening up the agriculture sector to market forces will not only reduce the stress on government finances but also help farmers by making agriculture more remunerative.
 - The protesting farmers, however, disagree.
 - They argue that interaction with private players will ruin them financially.

TWO ECONOMIES, SIX DECADES





- A market economy essentially refers to a system where the pricing and supply of goods and services are predominantly determined by the free and voluntary interaction of people and firms in the marketplace.

China vs India

- Despite similar trends in the growth rates, the two countries have taken different reform paths;
- China started off with reforms in the agriculture sector and in rural areas, while India started by liberalizing and reforming the manufacturing sector.
- These differences have led to different growth rates and different rates of poverty reduction
- By making agriculture the starting point of market-oriented reforms, a sector which gave majority of the people their livelihood, China ensured widespread distribution of gains and build consensus and political support for the continuation of reforms.
- Reform of incentives resulted in greater returns to the farmers and in more efficient resource allocation, which in turn strengthened the domestic production base and made it more competitive.
- Besides, prosperity in agriculture favoured the development of a dynamic rural non-farm (RNF) sector, regarded as one of the main causes for rapid poverty reduction in China as it provided additional sources of income outside farming
- The rapid development of the RNF sector also encouraged the government to expand the scope of policy changes and put pressure on the urban economy to reform as well, since non-farm enterprises in rural areas had become more competitive than the state-owned enterprises (SOEs).
- Reforms of the SOEs, in turn, triggered macroeconomic reforms, opening up the economy further.
- Between 1978 and 2002, the rate of growth in agriculture nearly doubled over the 1966 to 1977 period and this was the main reason why poverty in China came down from 33 per cent of the population in 1978 to 3 per cent in 2001.
- In India, the most rapid poverty reduction occurred from late 1960s and the late 1980s but this was not because of reforms, rather due to a strong policy support to agriculture.
- India still continues with state food procurement and distribution, mainly because it is seen as affirmative action for over two-thirds of the population, including the poorest, which are dependent on agriculture and the rural economy, for livelihood.

So what was the most important differentiating factor between the two strategies?

- The Chinese policymakers first created the incentives and institutions required by the market economy and then, in the mid-1980s, they began to slowly open up markets, by withdrawing central planning and reducing the scope of procurement while expanding the role of private trade and markets.
- China had more favourable initial conditions – even in 1970, China had a significant edge over India in health, education, more egalitarian access to land, and growth of the power sector.

- And that is why, despite the private and economic restrictions imposed on the Chinese rural population, the country could achieve a sustained growth even before the reforms.
- The production linked incentives to boost India's manufacturing is essentially about shielding the domestic firms from market competition.
- Therefore the policies are justifying import bans and higher import tariffs.
- Similarly, India's decision to stay out of RCEP is also driven by the same notion – shielding the domestic firms from market forces.
- The undermining of the Insolvency and Bankruptcy Code is again essentially a story of not letting market forces hurt the existing promoters.
- Data shows that the bulk of farm produce was traded privately even before these laws came into force.
- The key concern for India should be the creation of incentives and institutions for a market economy to function because therein lies the only sustainable solution to allaying deep-set suspicions.

4.4.NITI Aayog releases 'Vision 2035: Public Health Surveillance in India'



- NITI Aayog has released a white paper: Vision 2035: Public Health Surveillance in India with the vision:
 - ✓ To make India's public health surveillance system more responsive and predictive to enhance preparedness for action at all levels.
 - ✓ Citizen-friendly public health surveillance system will ensure individual privacy and confidentiality, enabled with a client feedback mechanism.
 - ✓ Improved data-sharing mechanism between Centre and states for better disease detection, prevention, and control.



- ✓ India aims to provide regional and global leadership in managing events that constitute a public health emergency of international concern.
- ✓ 'Vision 2035: Public Health Surveillance in India's a continuation of the work on health systems strengthening.
- ✓ It contributes by suggesting mainstreaming of surveillance by making individual electronic health records the basis for surveillance.
- ✓ Public health surveillance (PHS) is an important function that cuts across primary, secondary, and tertiary levels of care. Surveillance is 'Information for Action'.
- ✓ The Covid-19 pandemic has drawn attention on (re) emerging diseases due to increased interaction between human-animal-environment.
- ✓ Early identification of this interference is essential to break the chain of transmissions and create a resilient surveillance system.
- ✓ This vision document is a step in that direction, it articulates the vision and highlights the building blocks.
- ✓ It envisions a citizen-friendly public health system, which will involve stakeholders at all levels, be it individual, community, health care facilities or laboratories, all while protecting the individual's privacy and confidentiality.'
- ✓ The white paper lays out India's vision 2035 for public health surveillance through the integration of the three-tiered public health system into Ayushman Bharat.
- ✓ It also spells out the need for expanded referral networks and enhanced laboratory capacity.
- ✓ The building blocks for this vision are an interdependent federated system of governance between the Centre and states, a new data-sharing mechanism that involves the use of new analytics, health informatics, and data science including innovative ways of disseminating 'information for action'.

4.5.List of trusted sources for telecom gear soon

WHY THE NEED FOR NATIONAL SECURITY DIRECTIVE ON TELECOM

India among top 3 countries in the world facing cyberattacks; 400,000 cyber incidents handled by CERT-In in 2019

Indians, Indian entities faced about 700,000 cyber-attacks till Aug '20: MeitY

₹1.24 lakh crore was lost due to cyber crimes in India last year

SAFEGUARDING TELECOM

Govt to draw up a list of trusted sources/products for telcos to buy network gear

May issue list of 'designated sources' from which no procurement would be allowed

National Cyber Security Coordinator (NCSC) to define methodology to define trusted network gear

Telcos need not replace existing gear, can continue with software upgrades on existing equipment & existing AMCs

BCCl

Illustration: ANIRBAN BORA

- Context: The government will soon declare a list of ‘trusted sources’ for acquiring gear for telecom networks and amend permits accordingly, a move aimed at keeping Chinese gear suppliers Huawei and ZTE out of India’s Future telecom expansion as well as its 5G technology rollout, amid continuing tensions on the borders.
- Considering the need to ensure India’s national security, the Cabinet has accorded approval for the National Security Directive on Telecommunication Sector
- Under the provisions of the Directive, in order to maintain the integrity of the supply chain security, the government will declare a list of ‘trusted sources/trusted products’ for the benefit of the telecom service providers.
- A list of ‘designated sources’ from which no procurement can be done may also be created.
- The telecom companies won’t need to replace existing gear, and can continue with software upgrades on existing equipment as well as with existing annual maintenance contracts(AMCs).
- The new directive kicks in within 180 days from the date of approval
- The telecom licenses would be amended to reflect the new National Security Directive on Telecommunication Sector.
- The list of equipment to be covered under the directive and the methodology to designate ‘trusted products’ will be devised by the National Cyber Security Coordinator (NCSC)
- The NCSC in turn will make its list based on approval of a committee headed by Deputy NSA.
- The committee will be called the National Security Committee on Telecom (NSCT) and will have members from relevant departments.
- Since the outbreak of the latest Sino-Indian border tensions earlier this year, the government has taken a series of steps to make it tougher for Chinese companies to operate in India.
- It has stipulated that companies belonging to countries sharing a border with India can no longer invest under the automatic route and need their investments to be vetted by the Indian authorities.
- In addition, around 220 Chinese apps have been banned for national security reasons.
- Center has also been unofficially nudging private and state-run telcos to start avoiding Chinese equipment, but this is the first official step in the direction of barring their involvement in Indian networks, especially the 5G rollout.
- The list of trusted sources/products would likely be drawn up on the basis of inputs from intelligence agencies linked to India’s immediate security concerns.
- It could get periodically updated or modified as strategic relationships between countries are a dynamic affair and keep changing.
- Once a list of trusted sources is drawn up, DoT will certify the sources which meet the requirements of its preferential market access (PMA) scheme as ‘Indian trusted sources’.
- The NSCT would then take measures to increase the use of equipment from such sources.
- Further, the NCSC will also release a guide for telcos on how to maintain enhanced supervision and effective control over their telecom networks to ensure that integrity of supply chain security is maintained.



- DoT will modify its existing guidelines to ensure that telecom operators comply with the amended guidelines.

4.6. In farm laws, the dispute settlement provision Govt has offered to roll back

- Context: In its bid to placate farmers protesting on the borders of the national capital for over three weeks against the new farm laws, the Centre offered to significantly water down key provisions of these laws. Among the changes proposed is the rollback of a unique dispute resolution mechanism for issues between farmers and buyers, and instead bringing such disputes under the jurisdiction of a civil court.

What is the dispute settlement mechanism?

- The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, provides a buyer a right to engage in trade and commerce of a farmer's produce across the country.
- This means a farmer has freedom to engage in intra-state and inter-state trade with buyers, expanding her choices beyond a traditional market.
- The law also provides for a dispute resolution mechanism in Chapter 3 of the Act.
- Section 8 of the Act, which lays down the "dispute resolution mechanism for farmers" states that "in case of any dispute arising out of a transaction between the farmer and a trader", a Conciliation Board appointed by the Sub- Divisional Magistrate will settle the dispute.
- It says the settlement by the Conciliation Board will be binding on the parties.

How will the Board decide the dispute?

- The law provides that the Board will consist of a chairperson and two to four such members as the Sub-Divisional Magistrate may deem fit.
- Parties will first have to make an application to the SDM seeking a "mutually acceptable solution through conciliation".
- Then the Board will take up the dispute.
- The parties themselves can recommend one or two members each as members to the Board along with the Chairperson, who will be a government employee appointed by the Sub-Divisional Magistrate.

What if the parties cannot reach a settlement?

- If the dispute is not settled within 30 days of being brought to the Board, the SDM will hear the dispute acting as the "Sub-Divisional Authority" for settlement of such dispute.
- The Sub-Divisional Authority is empowered to pass three kinds of orders under the law: (a) pass an order for the recovery of the amount payable to the farmers and traders; (b) impose a penalty as stipulated in sub-section (2) of section 11; or (c) suspend for such period as he deems fit or cancel the right to operate as an electronic trading and transaction platform.

- The law also provides for an appeal against the orders of the Sub-Divisional Authority, which is within 60 days from the date of the order to an officer not below the rank of Joint Secretary to the Government of India, to be nominated by the Central Government for this purpose.

Why are farmers upset with this dispute resolution framework?

- As the new law provides for a special dispute resolution mechanism, it bars the jurisdiction of the civil court from entertaining any suit or proceedings in respect of any matter that could be dealt through the special mechanism provided in the law.
- Section 15 of the Act says “no civil court shall have jurisdiction to entertain any suit or proceedings in respect of any matter, the cognisance of which can be taken and disposed of by any authority empowered by or under this Act or the rules made there under.”
- It is essentially the replacing of the jurisdiction of civil courts with a heavily bureaucratic procedure under the authority of the SDM, a government employee, that has raised fears among the farmers.

Can a statute bar courts from having jurisdiction?

- Jurisdiction of civil courts is governed by Section 9 of the Civil Procedure Code.
- The provision says that civil courts have the jurisdiction to try all suits of a civil nature, except suits of which cognisance is either expressly or impliedly barred.
- So statutes routinely bar the jurisdiction of civil courts to set up alternative dispute mechanisms.
- Many statutes, including the Income Tax Act, rent Control Laws, Companies Act, bar jurisdiction of civil courts giving preference to alternate dispute mechanisms.
- However, statutes cannot take away the jurisdiction of the High Courts and the Supreme Court.
- Any action by the state can be challenged before such courts on various grounds including arbitrariness.
- Judicial review is part of the basic structure of the Constitution and the right to approach courts for violation of fundamental rights is itself a fundamental right under Article 32 of the Constitution.
- In the context of the farm laws, decisions of the Sub-Divisional Authority can always be challenged before the relevant High Court on grounds of arbitrariness etc, if either party is aggrieved.

4.7. Bitcoin

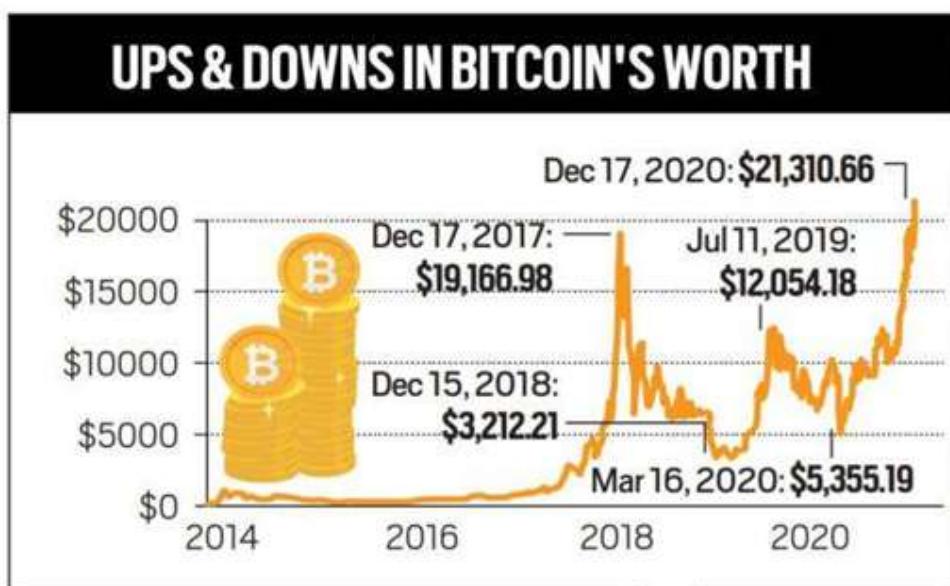
- Context: Bitcoin, the crypto currency, has breached barrier against the US dollar – the \$20,000 mark

How does a Bitcoin work?

- The origin of Bitcoin is unclear, as is who founded it.
- A person, or a group of people, who went by the identity of Satoshi Nakamoto are said to have conceptualised an accounting system in the aftermath of the 2008 financial crisis.
- Nakamoto published a white paper about a peer-to-peer electronic cash system, which would “allow online payments to be sent directly from one party to another without going through a financial institution”.



- Bitcoins are generally identified with a Bitcoin address, which comprises 26-35 alphanumeric characters starting with either “1” or “3”.
- This address, which remains anonymous, represents the destination of a Bitcoin, or a fraction.
- Originally, the Bitcoin was intended to provide an alternative to fiat money and become a universally accepted medium of exchange directly between two involved parties.
- However, after Bitcoins picked up momentum, some entities started establishing exchanges – on lines of stock exchanges – for people to buy and sell Bitcoins against fiat money such as dollars or euros or pounds.
- Early proponents of the crypto currency argued that once an exchange was established, all the strengths of a Bitcoin went away, considering a third-party institution was involved once again for money to change hands.



Are records of Bitcoin transactions maintained?

- Nakamoto mooted an idea for a publicly available, open ledger that would contain all the transactions ever made, albeit in an anonymous and an encrypted form.
- This ledger is called blockchain.
- Considering the public and open nature of the ledger, proponents of this currency system believe it could help weed out corruption and inefficiencies in the system.
- In a traditional financial deal in which two parties are using fiat money, a third-party organisation – usually a central bank – assures that the money is genuine and the transaction is recorded.
- With Bitcoin, a chain of computers is constantly working towards authenticating the transactions by solving complex cryptographic puzzles.
- For solving the puzzles, these systems are rewarded with Bitcoins.
- This process is called Bitcoin mining.

How does one acquire a Bitcoin?

- One can either mine a new Bitcoin if they have the computing capacity, purchase them via exchanges, or acquire them in over-the-counter, person-to-person transactions.
- A Bitcoin exchange functions like a bank where a person buys and sells Bitcoins with traditional currency.
- Depending on the demand and supply, the price of a Bitcoin keeps fluctuating.
- Miners are the people who validate a Bitcoin transaction and secure the network with their hardware.
- The Bitcoin protocol is designed in such a way that new Bitcoins are created at a fixed rate.
- No developer has the power to manipulate the system to increase his profits.
- One unique aspect of Bitcoin is that only 21 million units will ever be created.
- However, transactions can be denominated in sub-units of a Bitcoin. A Satoshi is the smallest fraction of a Bitcoin.

What has led to the rise in Bitcoin prices?

- The prices have been driven by various factors, including increased acceptance during the pandemic.
- Globally, large players like payments firm PayPal, and Indian lenders like State Bank of India, ICICI Bank, HDFC Bank and Yes Bank, have given legitimacy to crypto currency through some of their decisions.
- For example, these Indian banks reportedly have allowed their customers to use their bank accounts to fund crypto currency trading.
- In India, accounts of several exchanges were frozen by financial institutions back in 2018 following a fiat from the Reserve Bank of India that barred banks from using their systems for crypto currency-related transactions. However, the Supreme Court ruled against this order in March this year
- The biggest factor (in the recent rise of Bitcoin prices) has been the fact that some pension funds and insurance funds took permission to park a small part of their portfolio in Bitcoins.
- Once that happened, the availability is an issue leading to the spike in prices

What investment opportunity does Bitcoin present?

- Bitcoin did not intend it to be used as an asset, but the mushrooming of exchanges turned it into one.
- Traditional investment experts are wary of Bitcoin as an investment as there is not any underlying fundamental that drives its price and it's mostly driven by supply and demand and on technical factors
- It is an alternative currency which is digital in form and one has to be careful while going for it.

4.8.Govt exploring setting up bad bank

- Context: The government is exploring options, including setting up of a bad bank, to improve the health of the country's banking sector
- Government has recapitalised public sector banks and continue to pump in capital as per requirements.



- There have been differences of opinion on setting up of a bad bank.
- In June, Chief Economic Adviser said that setting up of a bad bank may not be a potent option to address the non-performing asset woes in the banking sector
- When a bank sells bad loans, it has to take a haircut because when Rs 100 goes bad, the actual amount that can be expected is lower than Rs 100 and that leads to haircut.
- So, when the bank has to sell that loan to an ARC (Asset Reconstruction Company) or a new institution that is created, in that case, it has to take haircut.
- When it takes haircut that will impact the P&L (Profit & Loss).
- And that is one of the key aspects affecting the selling of loans.
- So, till that particular aspect is not addressed, creating a new structure may not be as potent in addressing the problem
- Currently, banks sell their bad loans to ARCs as per the prudent norms of the Reserve Bank of India.
- Also some key aspects like transparency and recovery rate are to be addressed for the same.
- To help the MSME sector, the government has announced 100 per cent guarantee for the smaller industries so that the banks could lend to them.

4.9.Finance Ministry approves Rs 9,879 cr capital exp proposal of 27 state

- The scheme is aimed at boosting capital expenditure by the state governments who are facing difficult financial environment this year due to the shortfall in tax revenue
 - ✓ Capital expenditure projects have been approved in diverse sectors like, health, rural development, and water supply.
 - ✓ The Finance Ministry has approved Rs 9,879.61 crore worth capital expenditure proposals of 27 states.
 - ✓ Of this, Rs 4,939.81 crore has been released as the first installment.
 - ✓ All states, except Tamil Nadu, have availed benefits of the newly announced scheme for 'Special Assistance to States for Capital Expenditure', which was announced on October 12 as part of Aatma Nirbhar Bharat package.
 - ✓ Capital Expenditure has a higher multiplier effect, enhancing the future productive capacity of the economy, and results in a higher rate of economic growth.
 - ✓ Therefore, despite the adverse financial position of the Central Government, it was decided to extend a special assistance to the state governments in respect of capital expenditure, in financial year 2020-21.
 - ✓ The capital expenditure projects have been approved in diverse sectors like, health, rural development, water supply, irrigation, power, transport, education, urban development.



DEPARTMENT OF EXPENDITURE

Scheme for Special Assistance to States for Capital Expenditure

'Scheme for Special Assistance to States for Capital Expenditure' approved, wherein special assistance has been provided to the State Governments in the form of 50-year interest free loan up to an overall sum not exceeding Rs. 12,000 crore.

The scheme is constituted under three parts

- **Part-I** of the scheme is for the 8 north eastern States i.e. Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura, and for the hill States of Uttarakhand and Himachal Pradesh. The sum allocated for this part is Rs.2,500 crore. Out of this amount, Rs.1,400 crore will be divided equally among 7 north-eastern States while Rs.450 crore is earmarked for Uttarakhand, Himachal Pradesh & Assam.
- **Part-II** of the scheme is for all other States not included in Part-I. An amount of Rs 7,500 crore is earmarked for this part, which has been allocated amongst these States in proportion to their share of Central Taxes as per the interim award of the 15th Finance Commission for the year 2020-21.
- **Part-III** of the scheme amounting to Rs.2,000 crore will be allocated for those States who meet, by 31st December, 2020, at least three out of the four conditions specified under additional borrowing linked to specific reforms.

Under the scheme, (till 08.12.2020), Special Assistance of **Rs 9,880 crore for various capital projects has been approved to all States except Tamil Nadu**


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[www.finmin.nic.in](#)

- ✓ As part of the Aatma Nirbhar Bharat Package, the government had announced that the Centre will offer Rs 12,000 crore special interest-free 50-year loan to states, exclusively for capital expenditure.

4.10. India seeks tariff renegotiations at WTO

- India has proposed to renegotiate the upper tariff limits on certain items, reportedly information technology products, at the World Trade Organization (WTO) beginning 1 January.
- The move comes at a time when the Centre has been encouraging domestic manufacturing in select sectors through a production-linked incentive scheme under the Atmanirbhar Bharat Abhiyan.
- WTO rules allow countries to renegotiate bound rates, or upper tariff limits, for products with substantial interest in exports if the country's applied or current tariff is about to breach the bound rate.
- The country has to compensate to raise its bound rate to the exporting country through negotiations.
- In 1988-99, after India lost the case for quantitative restriction on rice and maize, it had to renegotiate tariffs of such items under Article 28 with Brazil, Argentina, the US, the EU and Australia, which had substantial trading interest in the products.



- As a result of the renegotiations, India got to impose tariff quotas on milk, cream powder, maize and mustard oil.
- It also got to raise tariffs on rice and millet to 80% and 70%, respectively, from 0%.
- But in return, India had to substantially reduce tariffs on a host of items, including butter, oranges and grapefruit, to compensate the other countries.
- Here India could be opening another front of renegotiation with member countries on IT products, including smartphones on which it has hiked duties, believed by many countries to be in violation of the IT Agreement it had signed in 1996 under which tariffs on such products need to be kept at zero.
- Under the programme to promote indigenous manufacturing of mobile handsets, starting from the FY16 budget, India has hiked customs duties in a phased manner on mobile phones and components including chargers, batteries, microphones, receivers, keypads, USB cables, printed circuit board assembly and camera modules.
- Starting 1 October this year, the government has also imposed a 10% customs duty on the display assembly and touch panel of handsets.
- The moves prompted the US, the EU and China to drag India to the dispute settlement mechanism of the WTO.

4.11. Foreign Ministry Launches Website to Boost Two-Way Economic Engagement

- The Ministry of External Affairs launched an economic diplomacy website which will act as a two-way funnel connecting Indian nationals' businesses and states globally for enhancing exports, exploring employment opportunities as well as attracting foreign industries and business to India.
- It aims to provide critical and relevant information on major economic indicators, central and state government policy updates as well as the latest business news and trade data.
- The website also includes information on global mineral resource endowments, opportunities for agricultural exports and employment abroad for Indian nationals and businesses
- It will also showcase India's economic, sectoral and state-wise trends that make for an attractive economic partnership.
- The economic and policy profiles of the states and Union territories along with the plethora of economic engagements and opportunities that they offer have been highlighted in extensive detail
- The website will connect interested investors to relevant government agencies such as APEDA (Agricultural and Processed Food Products Export Development Authority) for agricultural exports from India, Indian trade portal for trade with India and Invest India for inward investment respectively.
- It is in line with the vision of doubling farmers' income by 2022
- The MEA through its missions and posts plays an increasingly important role in facilitating, in providing inputs to the APEDA, the Ministry of Commerce and Industry and the Ministry of Agriculture and Farmers Welfare, for diversifying markets and enhancing the incomes of farmers through exports

- The aim is to connect businesses seeking to conduct trade and investment overseas with Indian missions and posts, and alert them to the relevant guidelines.
- Indian missions and posts abroad can also access periodically updated business related information on India aimed at important stakeholders in the overseas Indian community as well as potential foreign investors.
- In pursuit of Aatma nirbhar Bharat the MEA has been working in collaboration with the Ministry of Commerce and Industry, the minister of tourism and other line ministries to promote what was called the three T's -- trade, tourism and technology -- into India.

4.12.Australia and India Economic Relations

- India recently launched Australia Economic Strategy (AES) report
- AES is the only strategy report ever produced by the Indian government for a specific country, and is a reciprocal report to Australia's India Economic Strategy to 2035 (IES 2035) report released in 2018.
- The IES2035 set a target for India to become one of Australia's top three export markets, to make India the third-largest destination in Asia for Australian outward investment, \$100 billion by 2035, and to establish a bigger, better trade basket with balanced trade relations between both countries.
- For Australia-India ties, 2020 has been a year of promise.
- The year started with the Australia India Business Exchange (AIB-X), one of the largest trade missions to India in the past five years, followed by the historic virtual summit between the Australian and Indian prime ministers in June, which led to the elevation of the bilateral relationship to a Comprehensive Strategic Partnership.
- The Indo-Pacific provides a meeting point for Australian and Indian interests, Supply Chain Resilience Initiative (Australia, India and Japan) and the Quad grouping (United States, India, Japan and Australia), supplemented by Australia's recent participation in the Malabar exercises.
- The growing significance of these ties is also evident from the recent creation of a new vertical in the Ministry of External Affairs, which has an Oceania territorial division with Australia at its center.
- The new division also includes ASEAN and the Indo-Pacific divisions within it.
- The release of the AES is timely, covering a wide range of sectors and keeping in mind post-COVID-19 recovery, which both Australia and India will need to work on.
- The emphasis in the document is on a wide variety of sectors as well as other emerging fields for the future.
- It offers creative ideas for advancing ties in areas in which Australia and India have not engaged with each other, like cost effective clinical trials, traditional medicines like Ayurveda, IT-specific visas for talent flow, healthcare, trauma care, and aged-care support.
- The AES strongly recommends a six-month review of the strategy and IES 2035 implementation for the next two years.
- It asks for sector-specific specialized delegation exchanges, sharing of more success stories between both countries, and a focus on matching of businesses with similar goals.



- It also focuses on achieving a more operationalized and granular approach to execution, developing corporate Australia's interest in India's growth story, ensuring regular engagement between trade bodies, sector-specific joint working groups, mutual investment funding across key sectors, the setting up of startup and innovation and humanities funds, more direct flights between Australia and India's major business hubs, and a renewed focus on negotiating an Australia-India free trade Agreement (FTA).
- The two reports (IES 2035 and AES) together create a perfect roadmap for the future economic engagement between India and Australia.
- First, a goods, services, and investment-focused FTA with Australia would boost key Indian exports like textiles, clothing, auto parts, and jewelry, and offer an independent venue for negotiation with Australia.
- It will also facilitate investment flows from Australia, which has the world's third-largest pool of investment funds under management.
- An FTA could bolster the confidence that businesses have in the Indian operating environment.
- The welfare gain from the FTA could be in the range of 0.15 and 1.14 percent of GDP for India and 0.23 and 1.17 percent for Australia, further enhancing key engagement in sectors like agriculture, food processing, mining, and natural resources.
- Second, India is exporting only 10 percent of its GDP and is heavily dependent on domestic consumption.
- Australia's advanced manufacturing accounts for around half of Australia's A\$100 billion plus annual manufacturing output and is one of the fastest growing export sectors.
- India can explore synergies with Australia in advanced manufacturing as part of "Make in India 2.0" (which includes segments such as robotics, artificial intelligence, genomics, chemical feedstock, and electrical storage).
- Advanced manufacturing technologies today are vital to gain global competitiveness in cost, speed, innovation, and quality.
- Third, the success of India's e-mobility and renewable-energy goals primarily depend on the availability of critical minerals, used across telecommunications and electronics, healthcare, transportation, aerospace, defense industries in advanced applications.
- Australia has released a list 24 key critical minerals of which it can emerge as a potential supplier, along with the list of critical minerals projects in the country, which offers off-take and investment opportunities to public and private sector organizations across the world.
- India's public and private sector, along with its government consortium (KABIL) on critical minerals, can look at these assets to secure future supplies and build an efficient energy economy and future competitiveness.
- Australia's mining equipment, technology and services sector can offer a range of solutions to the mining industry in India, which lags behind other mining countries across all stages of mining—geoscience, production, and reclamation.

- Fourth, the discourses on education partnership between both countries must go beyond enrollment numbers and look at capacity building partnerships in science, technology, engineering, and mathematics.
- Fifth, deeper cultural understanding is integral to strong bilateral ties. Australia must make an effort to understand the New India better.
- The opportunities will not come to Australian businesses; they must be sought out actively and assertively.

4.13.India plans \$60 billion investment in gas infrastructure, says Dharmendra Pradhan

- Context: Petroleum Minister said the government has planned a \$60-billion investment for creating gas infrastructure in the country till 2024, and gas' share in the energy mix is expected to rise to 15 percent by 2030.
- Currently, gas accounts for 6 percent in the country's total energy mix.
- The \$60 billion spend in creating gas infrastructure till 2024, includes pipelines, LNG terminals and CGD (city gas distribution) networks.
- A gas-based economy is being envisioned by increasing the share of natural gas in India's primary energy mix from 6.2 percent to 15 percent by year 2030.
- India's first automated national-level gas trading platform was launched in June this year to promote and sustain an efficient and robust gas market and foster gas trading in the country.
- Coverage of CGD projects are being expanded to 232 geographical areas spread over 400 districts, with potential to cover about 53 percent of the country's geography and 70 percent of population
- Clean mobility solutions are being adopted with greater use of LNG (liquefied natural gas) as a transportation fuel, including long haul trucking.
- There is a plan to have 1,000 LNG fuel stations across the country.
- This year, India has achieved the milestone of completely filling all the strategic petroleum reserves with a total capacity of 5.33 MT (million tonnes) constructed at Visakhapatnam, Mangaluru and Padur.
- The process of establishing another 6.5 MT commercial-cum-strategic petroleum storage facilities at two locations, Chandikol and Padur, under the public-private partnership model has been initiated.

4.14.US put India on its currency watchlist

- Context: The United States has once again included India in its monitoring list of countries with potentially “questionable foreign exchange policies” and “currency manipulation”.

What does the term ‘currency manipulator’ mean?

- This is a label given by the US government to countries it feels are engaging in “unfair currency practices” by deliberately devaluing their currency against the dollar.



- The practice would mean that the country in question is artificially lowering the value of its currency to gain an unfair advantage over others.
- This is because the devaluation would reduce the cost of exports from that country and artificially show a reduction in trade deficits as a result.

WHAT IT MEANS...

For India | There will be pressure on RBI to cut down intervention, allow the rupee to appreciate

In terms of restrictions
| The tag does not involve any kind of trade restrictions



For economy | A stronger rupee would partially offset the impact of rising oil prices on imports

For RBI | The central bank can increase diversification of its reserves to include non-dollar assets

What are the parameters used?

- An economy meeting two of the three criteria in the Trade Facilitation and Trade Enforcement Act of 2015 is placed on the Monitoring List. This includes:
 - ✓ A “significant” bilateral trade surplus with the US – one that is at least \$20 billion over a 12-month period.
 - ✓ A material current account surplus equivalent to at least 2 percent of gross domestic product (GDP) over a 12-month period.
 - ✓ “Persistent”, one-sided intervention – when net purchases of foreign currency totalling at least 2 percent of the country’s GDP over a 12 month period are conducted repeatedly, in at least six out of 12 months.
- 1. Once on the Monitoring List, an economy will remain there for at least two consecutive reports “to help ensure that any improvement in performance versus the criteria is durable and is not due to temporary factors.”
- 2. The administration will also add and retain on the Monitoring List any major US trading partner that accounts for a “large and disproportionate” share of the overall US trade deficit, “even if that economy has not met two of the three criteria from the 2015 Act”.

5. Environment

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

5.1. Exotic pets

- An exotic pet is a rare or unusual animal pet:
 - ✓ An animal kept within human households which is relatively unusual to keep or is generally thought of as a wild species rather than as a pet.
 - ✓ The Supreme Court recently upheld an Allahabad High Court order granting immunity from investigation and prosecution if one declared illegal acquisition or possession of exotic wildlife species.

What is the government's voluntary disclosure scheme?

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has come out with an advisory on a one-time voluntary disclosure scheme that allows owners of exotic live species that have been acquired illegally, or without documents, to declare their stock to the government between June and December 2020.
- With this scheme, the government aims to address the challenge of zoonotic diseases, develop an inventory of exotic live species for better compliance under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and regulate their import.
- In its current form, however, the amnesty scheme is just an advisory, not a law.

Classification of species under CITES

Appendix I	Appendix II	Appendix III
Trade permitted only in exceptional circumstances - 3% of all species	Trade strictly controlled - 97% of all species	Request for assistance in controlling trade of species protected in a specific country
		
(Example: African rhinoceros - threatened with extinction)	(Example: Orchidaceae - at risk of becoming threatened)	(Example: Chilensisian toad)

Source: CITES © DW

What kind of exotic wildlife are covered?

- The advisory has defined exotic live species as animals named under the Appendices I, II and III of the CITES.
- It does not include species from the Schedules of the Wild Life (Protection) Act 1972.



- So, a plain reading of the advisory excludes exotic birds from the amnesty scheme.
- CITES is an international agreement between governments to ensure that international trade in wild animals, birds and plants does not endanger them.
- India is a member.
- Appendices I, II and III of CITES list 5,950 species as protected against over-exploitation through international trade.
- Many of these animals, such as iguanas, lemurs, civets, albino monkeys, coral snakes, tortoises, are popular as exotic pets in India.

What is the process for disclosure under the scheme?

- The disclosure has to be done online through MoEFCC's Parivesh portal.
- The owner of the animal(s) will have to declare the stock as on January 1, 2020 to the Chief Wildlife Warden (CWLW) of the concerned state or Union Territory.
- This will be followed by a physical verification of the animals.
- The CWLW will have to issue an online certificate of possession of exotic live species within six months of the date of the voluntary disclosure.
- After the registration, it is mandatory for the owner to allow the CWLW with free access to the exotic species declared on any day for verification.
- Apart from this, the CWLW has to be informed about any new acquisition, death or change in possession of the animals within 30 days.
- The scheme has also specified guidelines for surrender of such animals to a recognised zoo.
- The owner will also have to provide the details of the species acquired, their numbers, and the address of the facility where they are housed.
- The Directorate of Revenue Intelligence (DRI), enforces anti-smuggling laws in India.
- According to World Wildlife Crime Report 2016 of the UN, criminals are illegally trading products derived from over 7,000 species of wild animals and plants across the world.
- In its first global report on the illegal wildlife trade, the Financial Action Task Force (FATF) described wildlife trafficking as a "global threat", which also has links with other organised crimes such as modern slavery, drug trafficking and arms trade.
- The illegal trade is estimated to generate revenues of up to \$23 billion a year.
- India continues to battle wildlife crime, with reports suggesting that many times such species are available for trade on online market places.
- The Wildlife Crime Control Bureau is an organisation that is tasked with monitoring illegal trade.

5.2. India has achieved 21% of emissions intensity target

- Context: India is the only major G20 country that was on track towards keeping to its nationally determined commitments to halt runaway global warming.

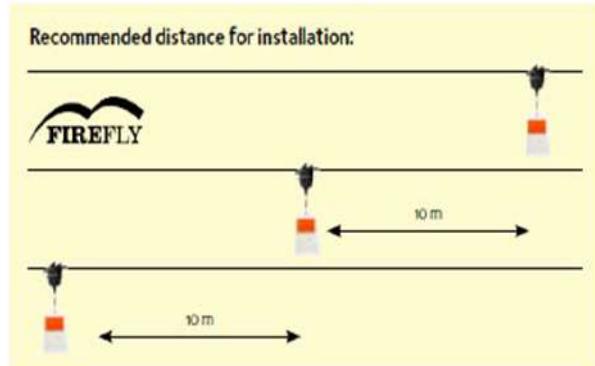
- It had achieved 21% of its emissions intensity as a proportion of its GDP in line with its commitment to a 33-35% reduction by 2030.
- The Climate Ambition Summit is to be jointly hosted by the United Nations, the United Kingdom and France, in partnership with Chile and Italy to mark the fifth anniversary of the adoption of the Paris Agreement.
- Attending heads of states are expected to, but not obliged, declare enhanced commitments to prevent global temperature from rising beyond 1.5C.
- In 2015, ahead of the United Nations' significant climate conference in Paris, India announced three major voluntary commitments called the Nationally Determined Contributions (NDC):
 - ✓ Improving the emissions intensity of its GDP by 33 to 35 per cent by 2030 below 2005 levels
 - ✓ Increasing the share of non-fossil fuels-based electricity to 40 per cent by 2030
 - ✓ Enhancing its forest cover, thereby absorbing 2.5 to 3 billion tonnes of carbon dioxide.
- According to the International Institute of Sustainable Development, the summit is positioned as a “sprint to Glasgow,” where the 26th session of the Conference of the Parties (COP 26) to the UN Framework Convention on Climate Change (UNFCCC) is scheduled to take place from 1-12 November 2021.
- Six of the world's top 10 emitters will be present: China, the European Union, India, Japan and Canada (plus two senior U.S. Governors). Notable absentee big polluters are Australia, Brazil, Indonesia and Mexico.
- The Paris Agreement, adopted at COP 21 in Paris, on 12 December 2015, constitutes a landmark agreement on climate change that seeks to limit global average temperature rise to well below 2°C above pre-industrial levels and endeavour to limit the increase to 1.5°C.
- The agreement, which entered into force on 4 November 2016, currently has 188 parties.
- All parties to it are expected to undertake ambitious efforts to support the agreement's goals and communicate their related intentions every five years in the form of NDCs.
- In the first round, 186 parties submitted their first NDC and two have since submitted a second one.
- As per the Agreement, each successive NDC must represent a progression beyond the country's previous NDC and reflect its highest possible ambition.

5.3.Rare Myristica Swamp Treefrog

- Myristica Swamp Treefrog, is a rare arboreal species endemic to the Western Ghats
- It bears the scientific name *Mercuranamyristicacapalustris*.
- This has been recorded for the first time north of the Shencottah gap in Vazhachal Reserve Forest in Thrissur.
- The frog was first described in 2013 from the lowland Myristica swamps of Arippa, near Kulathupuzha Reserve Forest, in the western foothills of Agasthyamalai.
- These frogs are rare and elusive for the reason that they are arboreal and active only for a few weeks during their breeding season.



- During this season, there is a large aggregation of males that descend from the high canopy of the trees.
- The males vocalise in groups from the low perches in the swamps.
- They exhibit unique breeding behavior.
- The breeding season, unlike for other frogs, starts in the pre-monsoons season (May) and ends before the monsoon becomes fully active in June.
- Before the end of the breeding season, the female frogs along with their male counterparts descend to the forest floor.
- The female digs the mud and lays eggs in shallow burrows in mud.
- After breeding and egg-laying, they retreat back to the high canopies of the tree and remain elusive till next breeding season.
- Extended distribution of such rare frogs in the Western Ghats have conservation implications and provide a suitable niche for further studies on the diverse amphibian fauna of the Western Ghats



5.4. Bustard conservation

- Context: A proposal to put all power transmission lines passing through Great Indian Bustard (GIB) habitat underground did not elicit support from the Union Ministry of Power (MoP) and the Rajasthan government.
- The MoP said putting high-tension power cables above 33 kiloVolt underground was not feasible.
- The idea of putting the power transmission lines underground was one of the recommendations of the Dehradun-based Wildlife Institute of India (WII).
- WII was ordered by the NGT September 4, 2019 to come up with these recommendations.
- The MNRE also did not agree with WII's recommendation on disallowing new wind turbines and solar farms in the 13,000 square kilometre priority GIB habitat in Rajasthan and Gujarat.
- The ministry, however, was of the view that an order could be issued by the Union environment ministry to clarify and map out the critical GIB area where no activity could take place.
- It was decided that WII would map the critical area and share it with the environment ministry, MoP, MNRE and the governments of Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh and Karnataka for further action.
- WII's other recommendations included the development of predator-proof enclosures 5-10 square kilometres in area as well as delineating priority GIB habitats outside Rajasthan's Desert National Park as 'eco-sensitive zones'.
- The National Green Tribunal now has ordered that all power transmission lines should be underground for new renewable power projects in marked habitats of the Great Indian Bustard.

- It also asked the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) as well as concerned states to install bird diverters on “existing solar and wind power lines”, preferably within four months.
- It has directed the ministry to ensure that environment impact assessments (EIA) of solar energy projects cover impacts on biological diversity.
- Green energy projects (wind, solar, etc) lie outside the purview of EIAs. They are considered green and their impact is not assessed, but they do impact biodiversity.
- Regarding the same, The Ministry of Environment Forest and Climate Change (MoEFCC) along with the Wildlife Conservation Society (WCS) India has come up with a unique initiative – a “firefly bird diverter” for overhead power lines in areas where Great Indian Bustard (GIB) populations are found in the wild.
- GIB is one of the most critically threatened species in India, with less than 150 birds left in the wild.
- A report by the Ministry, submitted to the National Green Tribunal in 2019, pointed out that power lines, especially high-voltage transmission lines with multiple overhead wires, are the most important current threat for GIBs in the Thar region, and are causing unsustainably high mortality in about 15% of their population.
- Firefly bird diverters are flaps installed on power lines.
- They work as reflectors for bird species like the GIB.
- Birds can spot them from a distance of about 50 meters and change their path of flight to avoid collision with power lines.
- Smaller birds can change their direction [swiftly] but for larger bird species, it is difficult because their body weight and other factors
- The diverters are called fireflies because they look like fireflies from a distance, shining on power lines in the night.
- The selected stretch is opposite the Pokhran Field Firing Range, which offers a safe habitat to a breeding population of GIBs outside the Desert National Park Sanctuary in Jaisalmer.
- Experts said that the innovative firefly diverter installation could serve as an alternative means to species conservation.
- Experts say only two districts in Rajasthan – Jaisalmer and Barmer – have a breeding GIB population in the wild.
- The bird can also be found in very small numbers in Gujarat, Madhya Pradesh, Karnataka, Maharashtra and Andhra Pradesh.

5.5. Marine protection falls short of the 2020 target to safeguard 10% of the world oceans.

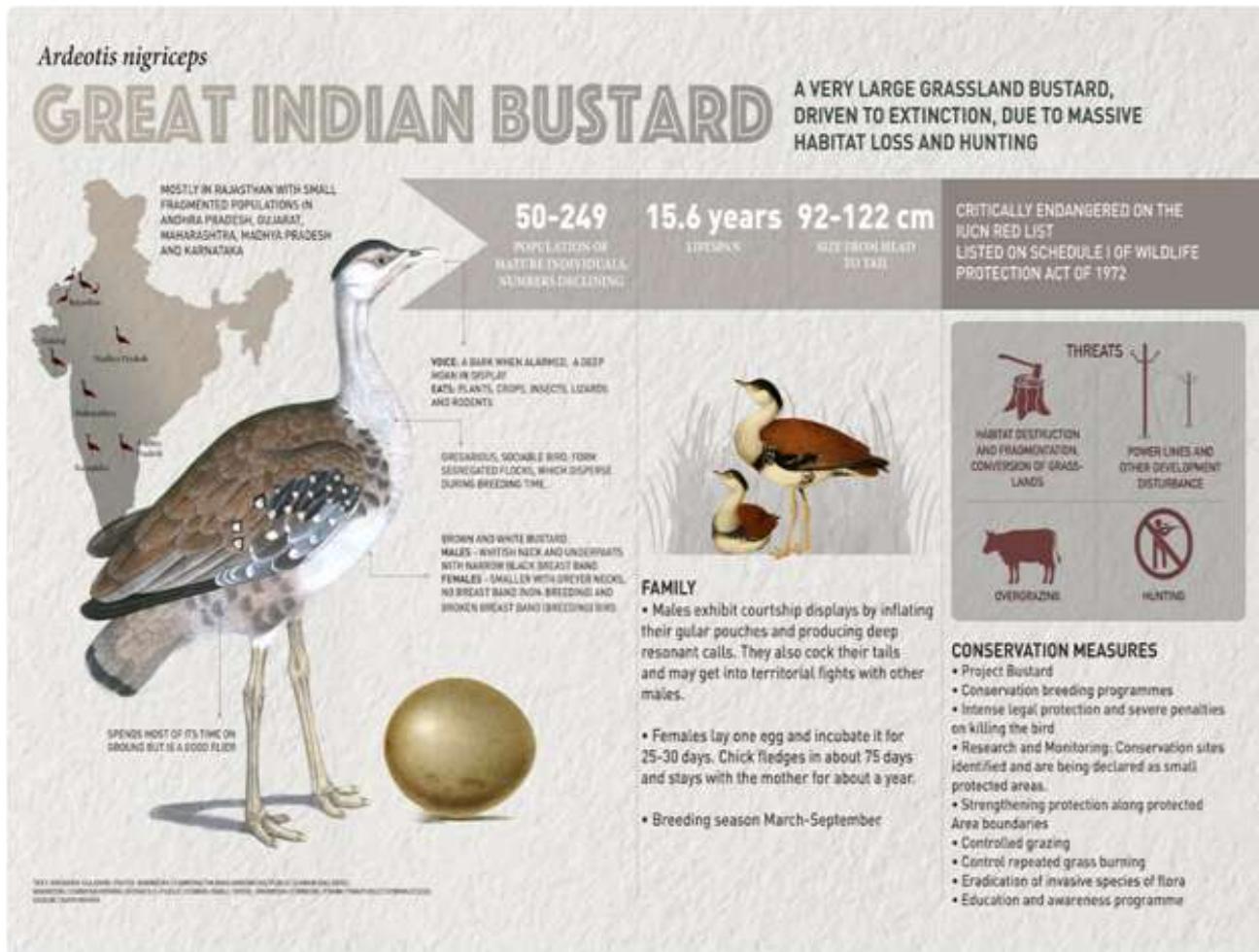
- Two-thirds of the world’s oceans fall outside national jurisdictions – they belong to no one and everyone.



- These international waters, known as the high seas, harbour a plethora of natural resources and millions of unique marine species.
- But they are being damaged irretrievably. Research shows unsustainable fisheries are one of the greatest threats to marine biodiversity in the high seas.
- According to a 2019 global assessment report on biodiversity and ecosystem services, 66 per cent of the world's oceans are experiencing detrimental and increasing cumulative impacts from human activities.
- In the high seas, human activities are regulated by a patchwork of international legal agreements under the 1982 UN Convention on the Law of the Sea (UNCLOS). But this approach is failing to safeguard the ecosystems we depend on.
- A decade ago, world leaders updated an earlier pledge to establish a network of marine protected areas (MPAs) with a mandate to protect 10 per cent of the world's oceans by 2020.
- But MPAs cover only 7.66 per cent of the ocean across the globe.
- Most protected sites are in national waters where it's easy to implement and manage protection under the provision of a single country.
- In the more remote areas of the high seas, only 1.18 per cent of marine ecosystems have been gifted sanctuary.
- The Southern Ocean accounts for a large portion of this meagre percentage, hosting two MPAs.
- The South Orkney Islands southern shelf MPA covers 94,000 square kilometres, while the Ross Sea region MPA stretches across more than 2 million square kilometres, making it the largest in the world.
- Currently, the world's largest marine protected area is in the Ross Sea region off Antarctica.
- The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is responsible for this achievement.
- Unlike other international fisheries management bodies, the commission's legal convention allows for the closing of marine areas for conservation purposes.
- In 2017, the UN started negotiations towards a new comprehensive international treaty for the high seas.
- The treaty aims to improve the conservation and sustainable use of marine organisms in areas beyond national jurisdiction.
- It would also implement a global legal mechanism to establish MPAs in international waters.
- This innovative international agreement provides an opportunity to work across institutional boundaries towards comprehensive high seas governance and protection.
- The final round of treaty negotiations is pending, delayed by the novel coronavirus disease pandemic and significant detail within the treaty's draft text remains undeveloped and open for further debate.

Lessons from Southern Ocean management

- CCAMLR comprises 26 member states (including the European Union) and meets annually to make conservation-based decisions by unanimous consensus.
- In 2002, the commission committed to establishing a representative network of MPAs in Antarctica in alignment with globally agreed targets for the world's oceans.
- The two established MPAs in the high seas are far from an ecologically representative network of



protection.

- In October 2020, the commission continued negotiations for three additional MPAs, which would meet the 10 per cent target for the Southern Ocean, if agreed.
- But not a single proposal was agreed.
- For one of the proposals, the East Antarctic MPA, this marks the eighth year of failed negotiations.
- Fisheries interests from a select few nations, combined with complex geopolitics, are thwarting progress towards marine protection in the Antarctic.
- CCAMLR's two established MPAs (in grey) are the South Orkney Islands southern shelf MPA and the Ross Sea region MPA.
- Three proposed MPAs (hashed) include the East Antarctic, Domain 1 and Weddell Sea proposals.



CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS, AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

GLOBALLY

COASTAL AND MARINE RESOURCES CONTRIBUTE
US\$ **3-6 TRILLION**
TO THE GLOBAL ECONOMY
EVERY YEAR

IN INDIA

**13.36%**POPULATION
LIVE IN
COASTAL
DISTRICTS

SECOND LARGEST PRODUCER OF FISH



RANKED 12TH AMONG TOP 20 COUNTRIES RESPONSIBLE FOR MARINE POLLUTION

GENERATES
OF PLASTIC
EVERY DAY**25,000**

40% REMAINS UNCOLLECTED



**SEA LEVEL RISES BY
1.33 MM/YEAR ON COASTS**



REDUCE MARINE POLLUTION



PROTECT AND RESTORE ECOSYSTEMS



REDUCE OCEAN ACIDIFICATION



SUSTAINABLE FISHING



CONSERVE COASTAL AND MARINE AREAS



END SUBSIDIES CONTRIBUTING TO OVERFISHING



INCREASE THE ECONOMIC BENEFITS FROM SUSTAINABLE USE OF MARINE RESOURCES



INCREASE SCIENTIFIC KNOWLEDGE, RESEARCH AND TECHNOLOGY FOR OCEAN HEALTH

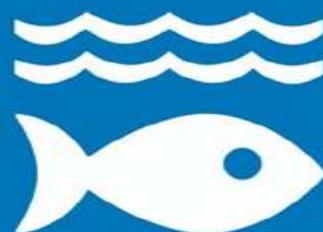


SUPPORT SMALL SCALE FISHERS



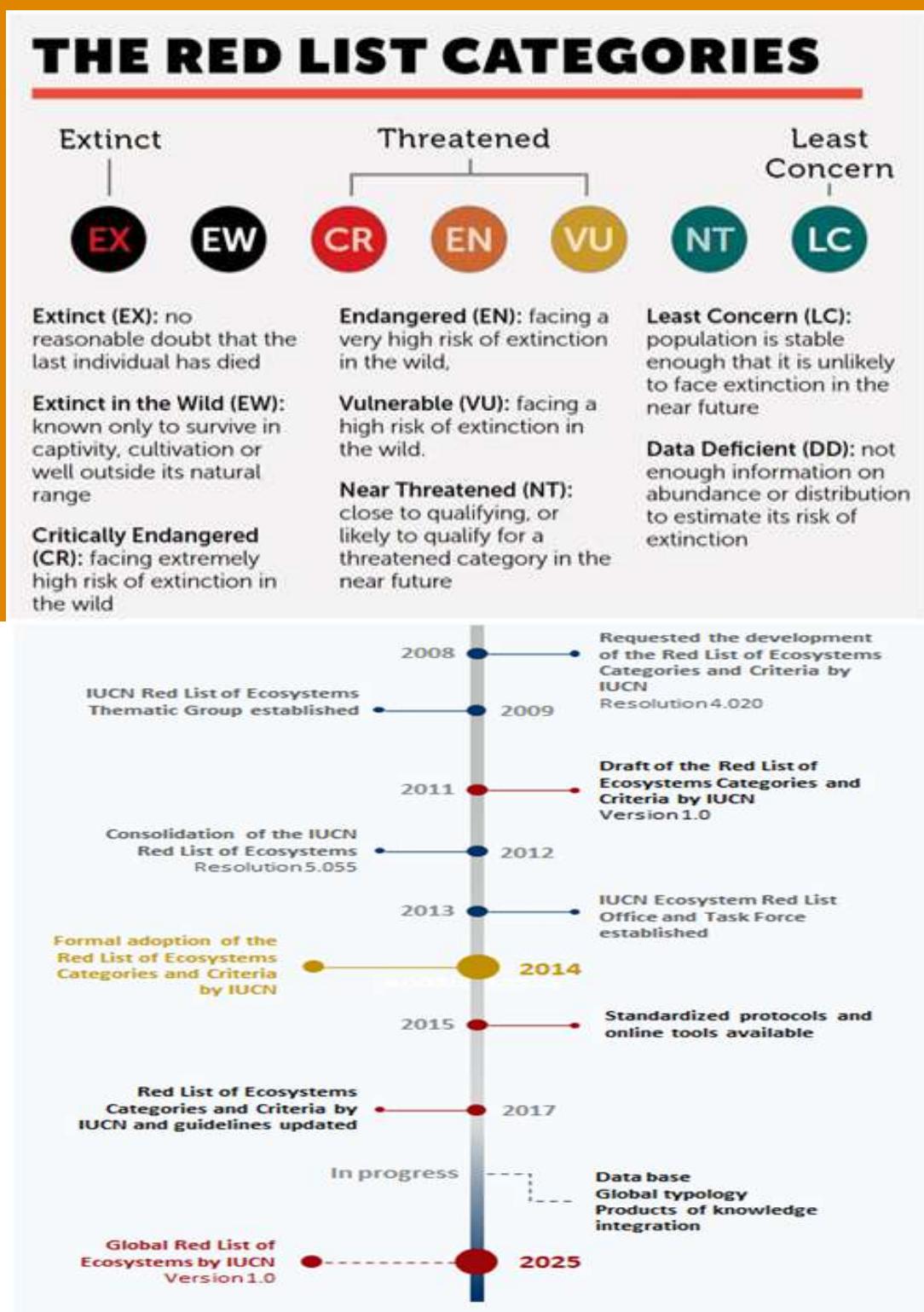
IMPLEMENT AND ENFORCE INTERNATIONAL SEA LAW

14 LIFE BELOW WATER



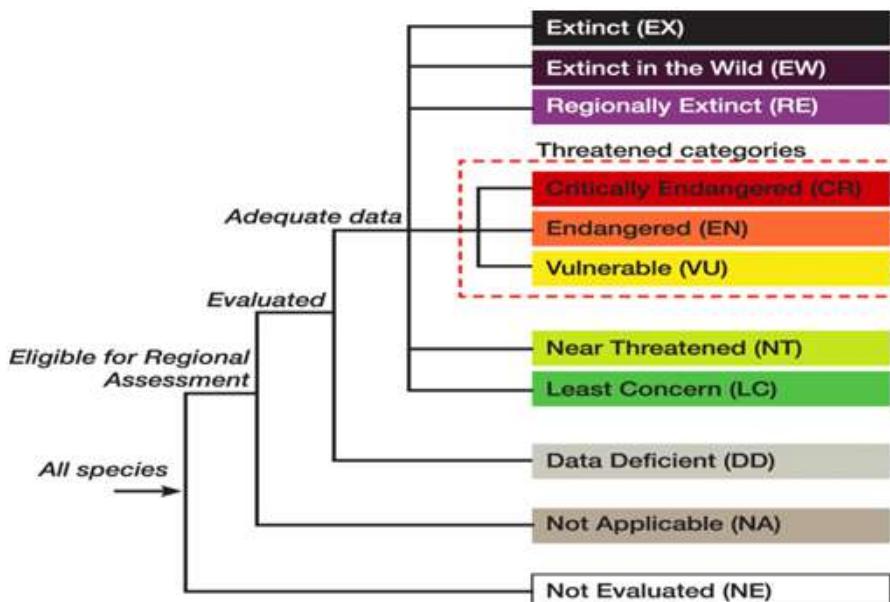
- CCAMLR's progress towards its commitment for a representative MPA network may have ground to a halt, but the commission has gained invaluable knowledge about the challenges in establishing MPAs in international waters.
- CCAMLR has demonstrated that with an effective convention and legal framework MPAs in the high seas are possible.

5.6. Update of the IUCN Red List of Threatened Species™





- An update to the International Union for Conservation of Nature's Red List of Threatened Species has declared 31 animal and plant species extinct.
- That total includes the lost shark, listed as critically endangered or possibly extinct, as it was last recorded in 1934.
- The lost shark's habitat in the South China Sea, one of the world's most exploited marine regions, has been extensively fished for more than a century.
- Out of 17 freshwater fish species in Lake Lanao and its outlet in the Philippines, 15 are now extinct and two are critically endangered or possibly extinct
- The extinctions were caused by predatory introduced species as well as overharvesting and destructive fishing methods.
- In Central America, three frog species have now been declared extinct.
- Another 22 frog species across Central and South America are listed as critically endangered or possibly extinct -- with the driver of the declines identified as chytridiomycosis disease, an infectious disease caused by a fungus that affects amphibians worldwide.
- In addition, all of the species of freshwater dolphin in the world are now threatened with extinction,



with the addition of the tucuxi, a freshwater dolphin species found in the Amazon river system, to the list.

- The tucuxi population has been "severely depleted" by deaths linked to fishing gear, damming rivers and pollution.
- The priority actions to recover the species include eliminating the use of gillnets -- curtains of fishing net that hang in the water, reducing the number of dams in its habitat and enforcing the ban on deliberately killing them.

- In the plant world, the ICUN has found that nearly a third of oak trees around the world are threatened with extinction, with the highest numbers in China and Mexico, followed by Vietnam, the U.S. and Malaysia.
- Land clearance for logging and agriculture are the most common threats, as well as invasive alien species and diseases, and climate change.
- Species that have recovered include the European bison, the largest land mammal in Europe, which has progressed from vulnerable to near-threatened.
- The population has grown from about 1,800 in 2003 to more than 6,200 in 2019 after surviving only in captivity in the early 20th century.
- It was reintroduced to the wild in the 1950s, and the largest subpopulations are found in Poland, Belarus and Russia.
- Currently, there are 47 free-ranging European bison herds, but they're largely isolated from one another and confined to suboptimal forest habitats.
- Only eight of the herds are large enough to be genetically viable in the long term, so the species will remain dependent on conservation efforts, such as moving them to more optimal, open habitats, and reducing conflicts with humans.
- The outlook for 25 other species has also improved, which demonstrates "the power of conservation"
- The growing list of extinct species is a "stark reminder that conservation efforts must urgently expand" and that conservation needs to become incorporated in all sectors of the economy to tackle global threats, such as unsustainable fisheries, land clearing for agriculture and invasive species.





6. Science & Technology

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

6.1. Genetically modified pigs

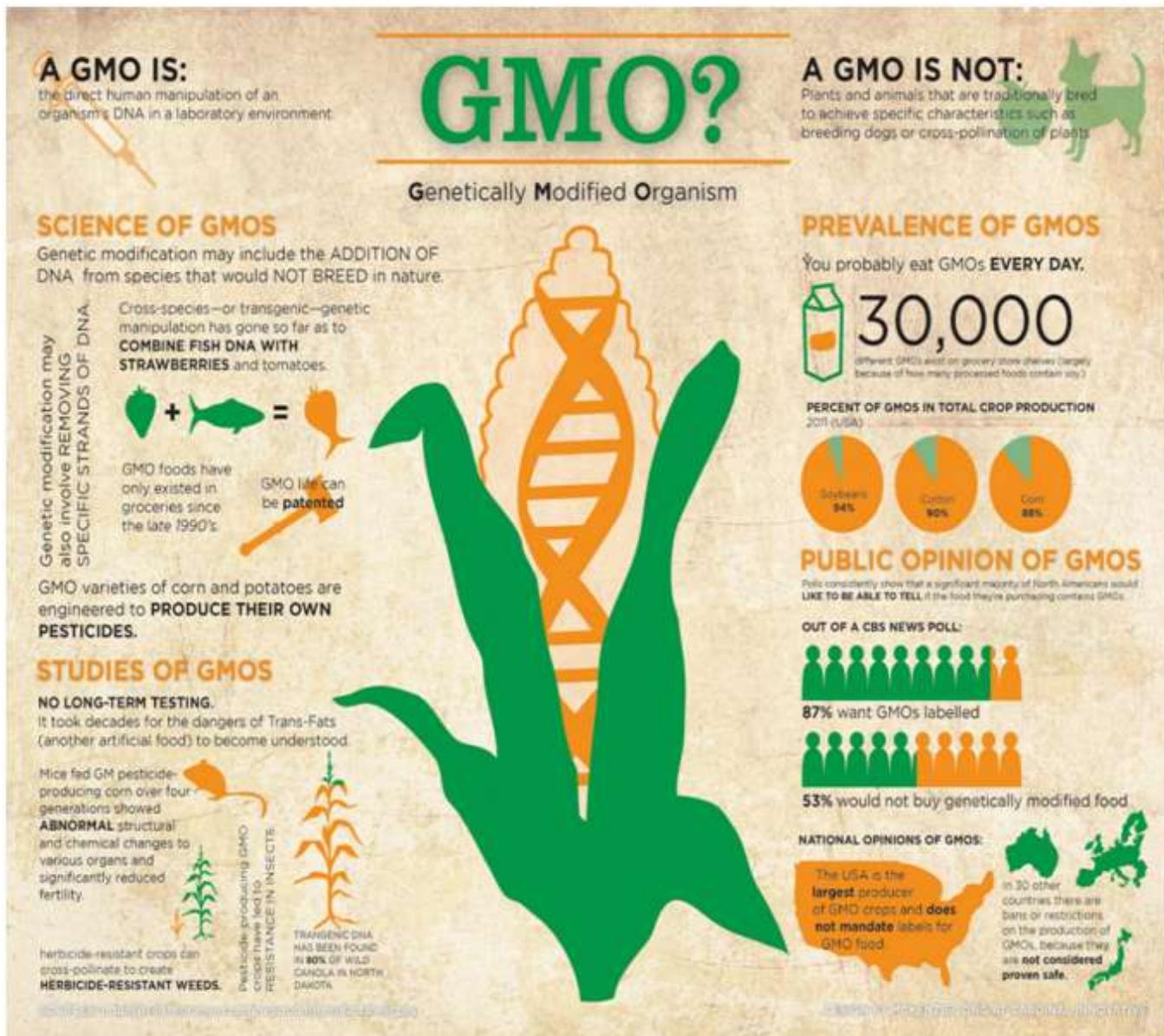
- Context: The US Food and Drug Administration (FDA) approved a first-of-its-kind Intentional Genomic Alteration (IGA) in a line of domestic pigs referred to as GalSafe pigs.
- These pigs may be used for food and human therapeutics.
- This will be the first time that the regulator has approved an animal biotechnology product for both food and biomedical purposes.

What is Intentional Genomic Alteration?

- Intentional genomic alteration in animals means making specific changes to the genome of the organism using modern molecular technologies that are popularly referred to as “genome editing” or “genetic engineering”.
- Such changes in the DNA sequence of an animal may be carried out for research purposes, to produce healthier meat for human consumption and to study disease resistance in animals among other reasons.
- One example is of using IGAs to make an animal more susceptible to certain diseases such as cancer, which helps researchers get a better understanding of the disease and develop new therapies to treat it.
- The FDA maintains that the only difference between an animal with an IGA and one that does not have an IGA is that the IGA gives them a new trait or characteristic, such as faster growth or resistance to certain diseases.
- Essentially, an IGA is inserted into an animal to change or alter its structure and function and the FDA makes sure that the IGA contained in the animal is safe for the animal and safe for anyone who consumes a product or food derived from the animal.

What does FDA's recent approval mean?

- The FDA made the announcement this week and allowed IGA in GalSafe pigs to eliminate a type of sugar found in mammals called alpha-gal.
- This sugar is present on the surface of these pigs' cells and when they are used for products such as medicines or food (the sugar is found in red meats such as beef, pork and lamb), the sugar makes some people with Alpha-gal Syndrome (AGS) more susceptible to developing mild to severe allergic reactions.
- Since GalSafe pigs may potentially be used to produce human medical products, IGA will help eventually free these products from detectable alpha-gal sugar, thereby protecting their human consumers from potential allergies.
- According to the FDA, GalSafe pigs may be used to make the blood-thinning drug heparin.



6.2.E20 Ethanol Mixed Petrol

- The government has proposed the adoption of E20 fuel for vehicular use.
- E20 is a blend of 20% ethanol with gasoline (petrol) and can be used as an alternative to the fuels currently available.
- The Ministry of Road Transport and Highways has published a draft notification as it opens up to comments from the public for the adoption of E20 fuel.
- The government is looking at the adoption of mass emission standards for this fuel for transport application.
- Additionally, it also wishes to facilitate the development of E20 compliant vehicles.
- The government believes that the E20 blend will not only curb vehicle emissions but help reduce the country's oil import bill.



Ethanol Expands Worldwide

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Ethanol fuels are being produced at record volumes by the

US, Brazil, and China.



The US could bust through its longstanding

10% cap on ethanol blended with gasoline in order to help corn farmers.



Those countries have each put forward plans to expand ethanol usage to meet



China aims to reach 10% blends nationwide, but needs to sharply increase ethanol production capacity or boost imports.



Brazil has set incentives to expand investment in its sugar-to-ethanol industry to make the country more competitive in international markets.



Taken together, these countries' plans could have significant impact on world agricultural commodity markets.



Sources: EIA, USDA PS&D, USDA GATS, Brazil/MIC, Gro Intelligence, WASDE



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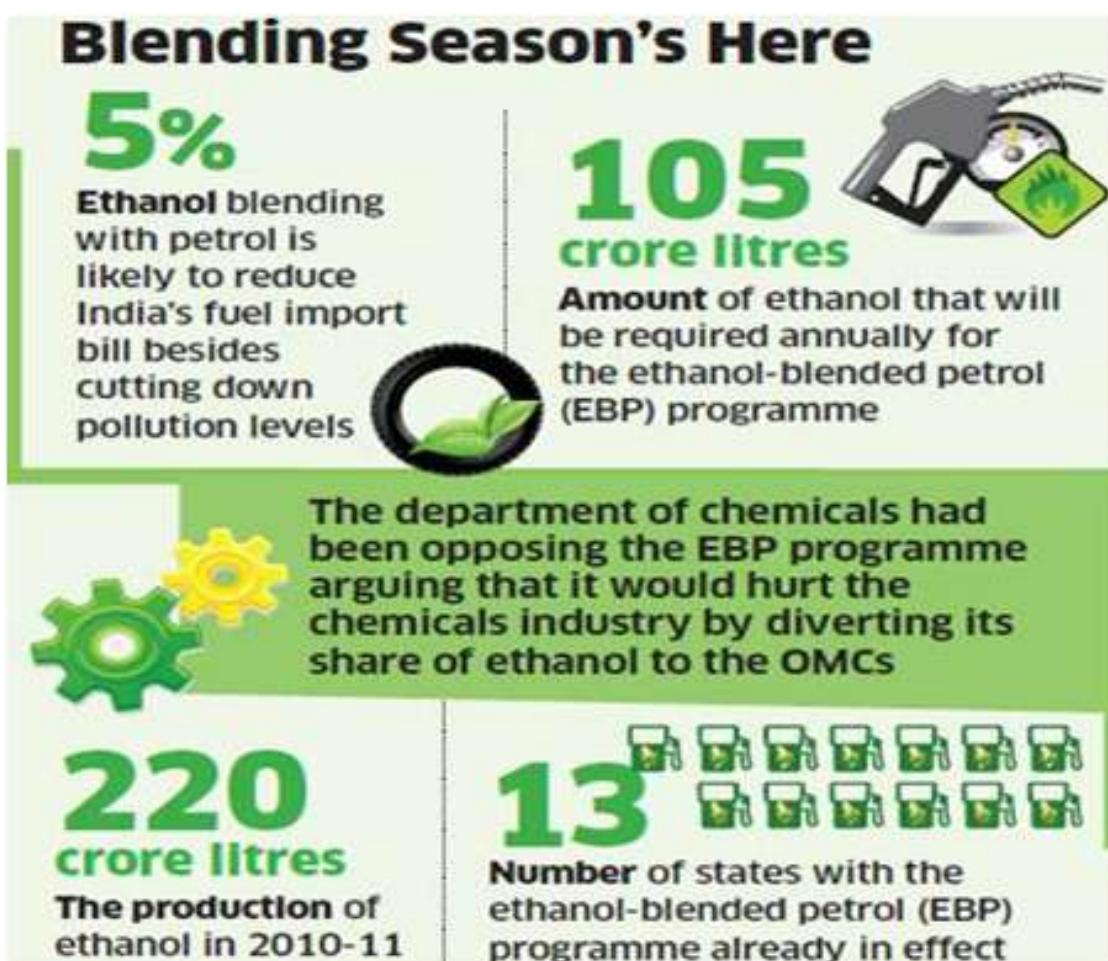
Ethanol – Pros and Cons

- Ethanol is a common by-product that comes from agricultural feedstock like corn, hemp, potato, etc.
- It can be used as a bio-fuel in Flexi-fuel vehicles.
- Ethanol is greener than gasoline because the corn and crop plantations absorb carbon dioxide from the atmosphere as they grow.
- While the fuel still releases CO₂ when you burn it, the net increase is comparatively lower.
- However, ethanol is less efficient as a fuel.
- It has a lower energy content than energy-rich gasoline and diesel.
- The fuel delivers less power when burned, which in return results in more fuel consumption and lower mileage.
- Additionally, blends over E15 (15% ethanol) is highly corrosive for older vehicles as the alcohol can break down old rubber seals and can damage engines.

Use of Ethanol in vehicles in India

- Currently, only 10% of ethanol blend is permissible in India.
- However, in 2019, it only reached 5.6%.
- [E20] will help in reducing emissions of carbon dioxide, hydrocarbons, etc.

- It will also help reduce the oil import bill, thereby saving foreign exchange and boosting energy security.
- The ministry said the vehicle manufacturer would define the percentage of ethanol in the blend for its vehicles.
- The same would be displayed on the vehicle through a clearly visible sticker.

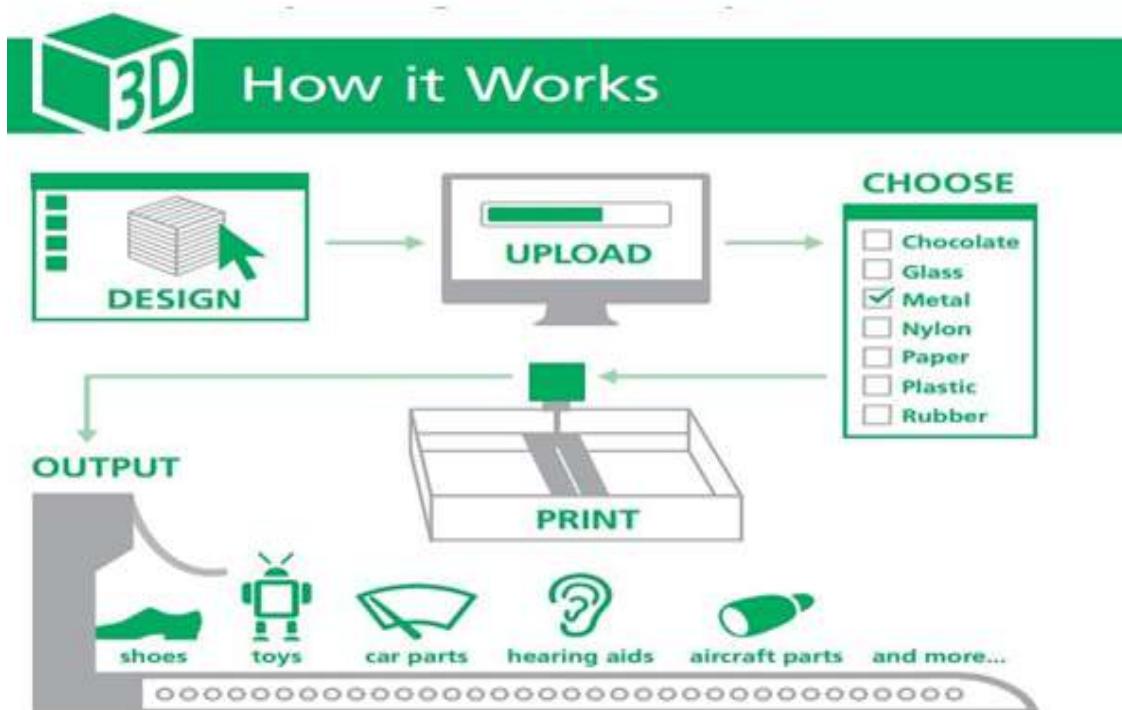


6.3.3D Printing Policy

- Context: Ministry of Electronics and Information Technology (MeitY) will soon come up with a policy aimed at promoting 3D printing on an industrial scale to help domestic companies
- It will help them to overcome technical and economic barriers so that they can build supportive and ancillary facilities for world leaders in the technology, such as the US and China.
- The policy will help develop a “conducive ecosystem for design, development and deployment” of 3D printing and additive manufacturing.
- 3D printing is a viable industry; it is mostly in the shape of additive manufacturing, wherein companies make specific products for projects where there are very specific demands such as lightweight equipment, etc
- The global market for additive manufacturing is expected to reach \$ 34.8 billion by 2024, which is growing at a compound annual growth rate of 23.2 per cent, according to the IT Ministry's estimates.



- 3D printing or additive manufacturing uses computer-aided designing to make prototypes or working models of objects by laying down successive layers of materials such as plastic, resin, thermoplastic, metal, fiber or ceramic.
- With the help of software, the model to be printed is first developed by the computer, which then gives instructions to the 3D printer.
- There is not only the manufacturing aspect of it, but also design and software.
- The policy will aim to cover both sides.
- The Central Government will also look to encourage market leaders to establish global bases for 3D manufacturing in India, while also discouraging imports of printed material for domestic requirements.
- One of the key applications for such products is in the medical and allied sector.
- The challenge there is lack of standards since it (3D printing) is a very niche and new domain. There are no global qualifications and certification norms.
- Other key areas of focus include the auto and ancillary auto and motor spare part business, such as engines, interior and exterior parts of luxury vehicles, or landing gear, complex brackets, and turbine blades.
- There can be some application of it in consumer electronics, printed circuit boards, clothing, toys and jewellery as well.
- Asia leads the world in 3D printing, and about 50 per cent of its market is cornered by China, followed by Japan at 30 per cent, and South Korea 10 per cent. But globally, the US remains the leader, with more than 35 per cent market share.
- Another key challenge is to convince the industry and ministries to push for its adoption in their respective sectors.
- Any new technology, which is not understood easily, faces a tough time.



6.4.Russian S-400 missile system

- Context: The United States has imposed sanctions on Turkey over acquisition of Russian S-400 air defence systems. US has also removed it from an F-35 jet program last year.

What is the S-400 air defence missile system?

- The S-400 Triumf, (NATO calls it SA-21 Growler), is a mobile, surface-to-air missile system (SAM) designed by Russia.
- It is the most dangerous operationally deployed modern long-range SAM (MLR SAM) in the world, considered much ahead of the US-developed Terminal High Altitude Area Defense system (THAAD).
- The system can engage all types of aerial targets including aircraft, unmanned aerial vehicles (UAV) and ballistic and cruise missiles within the range of 400km, at an altitude of up to 30km.
- The system can track 100 airborne targets and engage six of them simultaneously.
- It represents the fourth generation of long-range Russian SAMs, and the successor to the S-200 and S-300.
- The S-400's mission set and capabilities are roughly comparable to the famed US Patriot system.
- The S-400 Triumf air defence system integrates multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre.
- It is capable of firing three types of missiles to create a layered defence.
- The S-400 is two-times more effective than previous Russian air defence systems and can be deployed within five minutes.

DEAL | 5 squadrons of S-400 Triumf anti-aircraft\anti-missile systems from Russia

COST | ₹39,000cr

CHARACTERISTICS

- S-400 can destroy hostile aircraft, stealth fighters, missiles & drones at 400-km range
- Radars (primary acquisition one has 600-km range) can track hundreds of targets simultaneously
- 4 kinds of missiles to intercept

- targets at different ranges
- Can intercept even ballistic missiles with velocity of 4,800 meters per second
- Russia boasts S-400 can even "radar lock & shoot down" 5th-Gen stealth fighters like American F-35 jets

PLAN:

- Induct 1st S-400 squadron in 2 years after contract inked. All 5 in 5 years
- IAF will integrate S-400 with its IACCS (integrated air command and control system) network of sensors & weapons

CHINA:
inducting six S-400 batteries under a \$3 billion deal with Russia in 2014





- It can also be integrated into the existing and future air defence units of the Air Force, Army, and the Navy.
- The first S-400 systems became operational in 2007 and is responsible for defending Moscow.
- It has been deployed in Syria in 2015, to guard Russian and Syrian naval and air assets.
- Russia has also stationed S-400 units in Crimea to strengthen Russia's position on the recently annexed peninsula.
- From India's point of view, China is also buying the system.
- In 2015, Beijing signed an agreement with Russia to purchase six battalions of the system.
- Its delivery began in January 2018.
- India's acquisition is crucial to counter attacks in a two-front war, including even high-end F-35 US fighter aircraft.
- In October 2015, Defence Acquisition Council considered buying 12 units of S-400 for its defence needs.
- But, on evaluation, in December 2015, five units were found adequate.
- The deal is worth about USD 5 billion.
- The deal is expected to be signed soon between Russia and India.
- Turkey and Saudi Arabia are negotiating a deal with Russia, while Iraq and Qatar have expressed interest.

What is CAATSA, and how did the S-400 deal fall foul of this Act?

- Countering America's Adversaries through Sanctions Act (CAATSA) was passed unanimously by the US Congress.
- Its core objective is to counter Iran, Russia and North Korea through punitive measures.
- Title II of the Act primarily deals with sanctions on Russian interests such as its oil and gas industry, defence and security sector, and financial institutions, in the backdrop of its military intervention in Ukraine.
- Section 231 of the Act empowers the US President to impose at least five of the 12 listed sanctions – enumerated in Section 235 of the Act – on persons engaged in a “significant transaction” with Russian defence and intelligence sectors.
- CAATSA, if implemented in its stringent form, will affect India's defence procurement from Russia.
- Apart from the S-400 air defence system, Project 1135.6 frigates and Ka226T helicopters will also be affected.
- Also, it will impact joint ventures, like Indo Russian Aviation Ltd, Multi-Role Transport Aircraft Ltd and Brahmos Aerospace.
- It will also affect India's purchase of spare parts, components, raw materials and other assistance.

- Most of India's weapons are of Soviet/Russian origin – nuclear submarine INS Chakra, the Kilo-class conventional submarine, the supersonic Brahmos cruise missile, the MiG 21/27/29 and Su-30 MKI fighters, IL-76/78 transport planes, T-72 and T-90 tanks, Mi-series of helicopters, and Vikramaditya aircraft carrier.
- How did the exemption for India come about?
 - ✓ CAATSA impacts Indo-US ties and dents the image of the US as a reliable partner.

What's in it for Washington?

- The US sees India as a major market for the US defence industry.
- In the last one decade, it has grown from near zero to USD 15 billion worth of arms deals.
- US has bagged more than \$15 billion in arms deals including for the C-17 Globemaster and C-130J transport planes, P-8 (I) maritime reconnaissance aircraft, M777 light-weight howitzer, Harpoon missiles, and Apache and Chinook helicopters.
- In percentage terms, the US share of Indian arms imports total 23 per cent in terms of the number of contracts and 54 per cent by value.
- This value is all set to increase further with the US likely accepting an Indian request for Sea Guardian drones.

6.5.IMSAS, ASTRA Mk-I, BOSS

- Context: Defence Minister handed over three indigenously developed systems to Army, Navy and Air Force
- Indian Maritime Situational Awareness System (IMSAS) to the Chief of Naval Staff
- ASTRA Mk-I Missile to Air Chief Marshal
- Border Surveillance System (BOSS) to the Chief of Army Staff General
- Border Surveillance System, has already been deployed in Ladakh against the Chinese troops
- An all-weather electronic surveillance system successfully designed and developed by Instruments Research & Development Establishment (IRDE), Dehradun.
- The system has been deployed at Ladakh border area for day and night surveillance.
- It facilitates monitoring and surveillance by automatically detecting the intrusions in harsh high-altitude sub-zero temperature areas with remote operation capability.
- It is being produced by Bharat Electronics Limited (BEL), Machlipatnam.
- The IMSAS is state-of-the-art, fully indigenous, high performance intelligent software system that provide Global Maritime Situational Picture, Marine planning tools and Analytical capabilities to Indian Navy.
- The system provides Maritime Operational Picture from Naval HQ to each individual ship in sea to enable Naval Command and control (C2).



- Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru and Indian Navy has jointly conceptualized and developed the product and with the BEL, Bengaluru carrying out its implementation.
- The ASTRA Mk-I is the indigenously developed first Beyond Visual Range (BVR) Missile, which can be launched from Sukhoi-30, Light Combat Aircraft (LCA), Mig-29 and Mig-29K.
- Globally, very few countries have expertise and capabilities to design and produce this class of weapon system.
- ASTRA weapon system has been developed by Defence Research & Development Laboratory (DRDL) and production by Bharat Dynamics Limited (BDL) Hyderabad.
- These high technology systems have completed the design and development cycles.
- DRDO developed the systems handed over to the chiefs of all three-armed forces. It is the Research and Development wing of Ministry of Defence, Government of India.

6.6.Types of malaria

- Context: A not very common type of malaria, Plasmodium ovale, has been identified in a jawan in Kerala. The soldier is believed to have contracted it during his posting in Sudan, from where he returned nearly a year ago, and where Plasmodium ovale is endemic.

Types of malaria

- Malaria is caused by the bite of the female Anopheles mosquito, if the mosquito itself is infected with a malaria parasite.
- There are five kinds of malarial parasites — Plasmodium falciparum, Plasmodium vivax (the commonest ones), Plasmodium malaria, Plasmodium ovale and Plasmodium knowlesi.
- Therefore, to say that someone has contracted the Plasmodium ovale type of malaria means that the person has been infected by that particular parasite.
- In India, out of 1.57 lakh malaria cases in the high-burden states of Odisha, Chhattisgarh, Jharkhand, Meghalaya and Madhya Pradesh in 2019, 1.1 lakh cases (70%) were cases of falciparum malaria, according to a statement by the Health Ministry on December 2.
- In 2018, the National Vector-borne Disease Control Programme (NVBDCP) estimated that approximately 5 lakh people suffered from malaria (63% were of Plasmodium falciparum)
- The recent World Malaria Report 2020 said cases in India dropped from about 20 million in 2000 to about 5.6 million in 2019.

Plasmodium ovale

- P ovale rarely causes severe illness.
- P ovale is very similar to P vivax, which is not a killer form.
- Symptoms include fever for 48 hours, headache and nausea, and the treatment modality is the same as it is for a person infected with P vivax.
- P ovale is no more dangerous than getting a viral infection.

- It is termed ovale as about 20% of the parasitised cells are oval in shape.
- It is possible for the parasite to remain in the spleen or liver of the body for a long time, even years, after the mosquito bite, and the person could become symptomatic later.
- Distinguishing between P vivax and P ovale may be tricky Cases in India.
- According to scientists at the National Institute of Malaria Research (NIMR), the Kerala case could be an isolated one and there are no recorded cases of local transmission so far.
- Previously, too, isolated cases were reported in Gujarat, Kolkata, Odisha and Delhi. However, no local transmission has been recorded – which means these cases have been acquired.
- P ovale malaria is endemic to tropical Western Africa.
- According to scientists at NIMR, P ovale is relatively unusual outside of Africa and, where found, comprises less than 1% of the isolates.