

CURRENT AFFAIRS

WEEKLY

WEEK - 1
JUNE, 2020

DEFENCE

- IAF's famed 18 Squadron to be operationalised yet again

ECONOMY

- ILO concerned over Labour Law suspension in India

ENVIRONMENT & ECOLOGY

- Govt notifies BS-VI emission norms for quadricycles
- Puntius Sanctus
- World Turtle Day

GEOGRAPHY

- Earth's Magnetic Field is Weakening

GOVERNANCE

- New Domicile Order and Rules

HEALTH

- African Swine Fever

HISTORY

- Purandara Dasa

INTERNATIONAL INSTITUTIONS

- International Day of UN Peacekeepers

INTERNATIONAL RELATIONS

- Both Koreas violated the armistice agreement UNC
- India and China activate border mechanism talks

POLITY

- Associated members nominated for Delimitation Commission
- IOA forms annual grant and affiliation committee

SCIENCE & TECHNOLOGY

- Antarctic Impulsive Transient Antenna

MAINS

- Locust attack in India

ENVIRONMENT & ECOLOGY

- Hong Kong no longer autonomous from China: US

INTERNATIONAL RELATIONS

- TRAI releases recommendations for developing a 'Unifield Numbering Plan'

- UK moots 5G Club
- ### SCIENCE & TECHNOLOGY

PRELIMS

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— Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK- 1 (JUNE, 2020)

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JUNE

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29
JUNE

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MAINS ADVANCE

BATCH STARTS

20 JULY
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25 JULY
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SECTION: A

(MAINS)

CURRENT AFFAIRS

LOCUST ATTACK IN INDIA

CONTEXT

India is gearing up for what could be one of its worst locust invasions in decades. Outbreaks of the insect attack have been reported from Gujarat, Rajasthan, Maharashtra, Madhya Pradesh, Punjab, Haryana and Uttar Pradesh

◎ BACKGROUND

- The swarms that have been attacking India in the recent past are unique in their strength and nature, but India frequently battles desert locust onslaughts.
- They usually arrive in July-October. In the 2019-20 cropping season, around 3.75 lakh hectares of crops were devoured by locust attacks in India with a loss of over Rs 100 crore.
- Locusts have destroyed over 2 lakh hectares of crops in India since the beginning of May, and threaten another 6 lakh hectares of crop.
- Experts attribute the current deep invasion of locusts to the fact that while rabi crops have been harvested, kharif sowing is yet to begin.
- The low availability of crops is leading the swarms to devour leaves on trees, and vegetable, fruit and cotton crops, and move deeper into India in search of fodder.
- The swarm that is currently attacking India and other nations has its roots in heavy cyclones and rainfall over the past two years, a trend that has been attributed to climate change.

change their behaviour.

- The desert locust typically lives in the Arabian peninsula, in the arid regions of east Africa.
- Desert locusts can fly over 130 km a day, and stay in the air for a long time.
- Desert locusts normally live and breed in semi-arid/desert regions. For laying eggs, they require bare ground, which is rarely found in areas with dense vegetation. The female can lay eggs only in bare sandy soils at 5-10 cm depth.
- Female locusts can lay eggs at least thrice in their lifetime (roughly three to five months), at intervals of 6-11 days. Populations are said to have the capacity to multiply up to 20-fold in three months.
- Locust plague cycles – defined as a period of two or more consecutive years of widespread breeding, swarm formation and crop destruction – were a recurrent phenomenon throughout the nineteenth century and the first half of the 1900s. The last such cycle was reported in 1959-62.
- They don't attack people or animals, but they're considered the most destructive migratory pest in the world.

◎ ANALYSIS

What are locusts?

- A locust is a special type of short-horned grasshopper. The type recently spied in Africa and Asia has been identified as the desert locust (*Schistocerca gregaria*).

Scientific name	Acrididae
Type	Invertebrates
Diet	Herbivore
Group name	Swarm
Life span	Several months

- The desert locust is of about a dozen species of short-horned grasshoppers that are known to

The present attack:

- Locust attacks are common, but the present one is the worst India has seen in almost three decades.
- The ones affecting Indian farmlands are desert locusts belonging to the grasshopper family. They are more devastating than other species of locusts.
- Desert locusts have been attacking the Horn of Africa, the Middle East and Pakistan for quite some time now. This is not the first time that India is experiencing a locust invasion either.
- These insects typically attack parts of western India, especially Gujarat and Rajasthan, between June and November.
- However, this year's attack has been the worst in decades.

What makes locusts swarm?

- Locusts are grasshoppers, different from their peers in their ability to change behaviour, habits and migrate over large distances.
- Grasshoppers, or hoppers, are solitary creatures that don't live in groups. But if driven by hunger caused by drought or food scarcity, they start to gather together while foraging for food.
- As their population increases in an area, they start becoming "gregarious".
- In ecology, gregariousness is the tendency of animals to form social groups to hunt or eat together. It tends to induce hoppers to start coordinating their movements and form swarms. Gregarious hoppers are referred to as locusts.
- There are three forms of swarms:
 - Small pockets confined to certain areas, called outbreaks
 - slightly larger groups, called an upsurge, that are still geographically confined
 - mega groups, called plagues, of locusts that are separated by breeding locations but gather together in swarms.

Why are they dangerous?

- A threat to food security: A swarm the size of Paris can eat the same amount of food in a day as half the population of France (based on the calculation that one person eats 2.3 kg of food a day). Among poorer nations, a locust infestation means a serious threat to food security.
- A threat to crops: While the rabi crops, recently harvested, survived the onslaught, the locusts can take a heavy toll on India's kharif produce if not controlled by the time the harvest season arrives.
- Uncontrolled increase in number: The bigger problem will come once the present swarms breed. An adult female locust lays 80-90 eggs thrice in her three-month life cycle. If left uncontrolled, a swarm can grow exponentially to 40-80 million locusts per square kilometre.

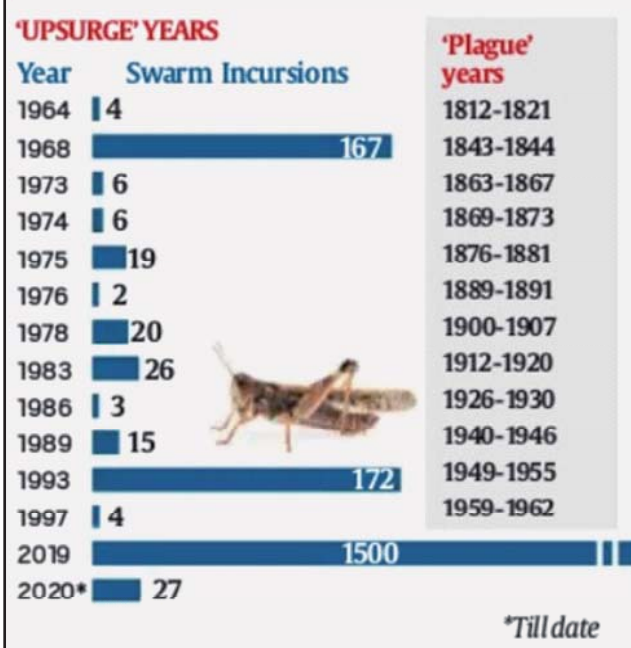
History of damage:

- Locusts have been known throughout history. They've been recorded in ancient Egypt through depictions on tombs dating back to 2500 BCE. The Bible records swarms from 1450 BCE. They're also mentioned in the Quran and several other holy books.
- They have been recorded in ancient China, Greece, Rome, Syria, and other parts of the world. More recently, in the 19th century, a species of hopper known as the Rocky Mountain locust, now extinct, devastated large parts of the US.
- India has not witnessed any full-blown locust

cycle since 1962, except for a few surges in 1978 and 1993.

- In 1875, a giant swarm reportedly consisting of over 12 trillion insects, spanning an estimated area of 5.1 lakh sq km blacked out the sky over multiple states, like Colorado and Nebraska.
 - They ate everything green, and more, including wool off sheep's backs, harnesses off horses' backs, and even the clothes people were wearing. This swarm was the largest gathering of any animal ever recorded.
 - To curb the damage, desperate governments started introducing bounties for killed locusts, and farmers dug up pits and burnt them with flamethrowers.
 - People even resorted to eating them. Grasshoppers and locusts are said to be among the most nutritious edible insects, with thrice the amount of protein than other kinds of meat.
- The Rocky Mountain locust population slowly started dwindling with changing farming activity. Ploughing, irrigation and mining are thought to have killed thousands of nests of eggs in the soil, bringing down their numbers.
- Within 20 years, this species disappeared off the face of the earth. The Rocky Mountain locust was last seen in 1902 and is now extinct.
- Its extinction is considered to be one of the biggest ecological mysteries.
- Today, North America and Antarctica are the only continents in the world to not have locusts.

TRACKING LOCUSTS, OVER THE YEARS



How farmers are controlling the attack?

- Today, humans have a distinct advantage in fighting locusts due to deeper knowledge and technology.
- Farmers have switched to crops that can be harvested much before swarming season, and the locusts themselves can be controlled and killed with pesticides.
- Monitoring for locust breeding is essential as it is much easier to destroy eggs than fully grown locusts.
- At present, the primary method of controlling desert locust swarms is through organophosphate chemicals (the prime ingredient in herbicide and pesticide).
- Farmers have been known to beat steel utensils during late afternoons and evenings, and play loud music at night and create wood-fire, to ward off locust swarms from farms, albeit temporarily.
- Additionally, newer technology in the form of serotonin inhibition has shown promise in laboratory settings.

Who keeps an eye on such attacks in India?

- As a result of the 1926-1931/1932 locust plague, India, under the British Raj at the time, began research into the desert locust, beginning in 1931.
- It then led to the establishment, in 1939, of a permanent Locust Warning Organization (LWO).
- Overseen by the Indian Council of Agricultural Research, the LWO monitors locust scenarios over desert areas. It has two headquarters
 - ▶ one in Faridabad (near New Delhi) for administrative duties
 - ▶ one in Jodhpur (Rajasthan) for technical operations

CONCLUSION:

India is scrambling drones, sending teams to spray insecticide and issuing alerts as swarms of locusts descend on its western states. The drones are helping track the voracious insects as they destroy crops, increasing fears over food security and economic malaise in a country already battered by the coronavirus pandemic.

HONG KONG NO LONGER AUTONOMOUS FROM CHINA: US'

CONTEXT

The Trump administration no longer regards Hong Kong as autonomous from mainland China. That sets the stage for the possible withdrawal of the preferential trade and financial status the U.S. accords the former British colony.

◎ BACKGROUND

- Hong Kong has long occupied a peculiar place in the international economic order. It's not an independent country, but can enter trade agreements with other states on its own.
- It sets its own taxes, and has its own currency.
- Though it's part of China, tariffs and customs controls applied on Chinese goods don't apply to Hong Kong.
- When the Hong Kong government attempted to introduce national security legislation in 2003, an estimated 500,000 people turned out to protest against the bill on July 1, 2003—the largest protest the city had seen since its handover from the U.K. The bill was eventually shelved.
- Since then, the city's government hasn't attempted to introduce the legislation again.
- Pressure to enact the bill has increased since widespread unrest erupted in June 2019.
- But following the new law, countries are re-evaluating whether the city should continue enjoying its special trade privileges, or be treated as just another mainland Chinese city.
- Hong Kong's special status is now facing its most urgent crisis yet.

◎ ANALYSIS

What is the issue?

- China's legislature has approved controversial national security laws for Hong Kong.
- The legislation, aimed at stamping out protests that have racked the city for the past year, would ban "any acts or activities" that endanger China's national security, including separatism, subversion and terrorism – charges often used in mainland China to silence dissidents and other political opponents.
- In short, the law bans sedition, secession, and subversion of China's central government.
- The law will drastically broaden Beijing's power over Hong Kong, which last year was roiled by anti-government protests calling for greater democracy and more autonomy from mainland China.

- It would also allow "national security agencies" – potentially Chinese security forces – to operate in the city.
- Critics say it threatens civil liberties in Hong Kong and undermines the "one country, two systems" arrangement that separates the region's political, legal, and financial infrastructure from mainland China's.

About Hong Kong:

- On 1 July 1997, Hong Kong became a Special Administrative Region of the People's Republic of China and the Basic Law came into effect.
- The Basic Law is the constitutional document of the Hong Kong Special Administrative Region.
- It enshrines within a legal document the important concepts of "one country, two systems", "Hong Kong people administering Hong Kong" and a high degree of autonomy.
- According to the Basic Law, Hong Kong's political system and way of life remain unchanged for 50 years.
- The rights and freedoms of people in Hong Kong are based on the impartial rule of law and an independent judiciary.

Historical background of Hong Kong:

- Hong Kong, the former British Colony was taken by Beijing in 1997 after over 150 years of British rule.
- The United Kingdom had held Hong Kong as a colony since 1841, when it occupied the area during the **First Opium War**.
- The war broke out after Qing-dynasty China attempted to crack down an illegal opium trade that led to widespread addiction in China.
- Defeat came at a high cost: In 1842, China agreed to cede the island of Hong Kong to the British in perpetuity through the Treaty of Nanjing.

- Over the next half-century, the United Kingdom gained control over all three main regions of Hong Kong: After Hong Kong Island came the Kowloon Peninsula, and finally the New Territories, a swath of land that comprises the bulk of Hong Kong today.
- The final treaty, **the 1898 Convention for the Extension of Hong Kong Territory**, leased the New Territories to Britain for 99 years.
- Under the terms of the treaty, China would regain control of its leased lands on July 1, 1997.
- In 1997, Hong Kong was guaranteed a high level of autonomy and an independent judiciary for a period of 50 years under a political model dubbed “one country, two systems.”

How the world reacted to the law?

- The move is widely considered a severe blow to Hong Kong’s promised autonomy
- In a joint statement, Australia, Canada, the UK and the US said: “China’s decision to impose the new national security law on Hong Kong lies in direct conflict with its international obligations.”
- They called on Beijing to work with the Hong Kong government and people to find a “mutually acceptable accommodation”.
- The UK separately said it would extend visa rights for as many as 300,000 Hong Kong British national (overseas) passport holders if China does not change tack.

The Special Status:

- In a latest statement, US secretary of state Mike Pompeo declared that Hong Kong can no longer be deemed to have a high degree of autonomy from China.
- This designation underpins US-Hong Kong relations, as Washington has legislated that the city must remain “sufficiently autonomous” to justify special treatment from the US.
- Under the Hong Kong Human Rights and Democracy Act passed last year in support of Hong Kong’s months-long pro-democracy protests, the US government must annually verify to Congress that the city remains autonomous from China, or risks losing its special status with the US.
- Hong Kong’s special trade and economic status with the US exempts it from the tariffs and export controls imposed by Washington on mainland China.

- US senators have already introduced a bill that would impose sanctions on Chinese officials and firms who violate freedoms in Hong Kong.
- The fallout could potentially be much wider, such as bringing an end to the extradition treaty between US and Hong Kong.

How China reacted?

- China has threatened the US with countermeasures if Washington decides to punish Beijing for its plans to enact the national security law, saying other countries have no right to interfere with Hong Kong’s internal affairs.
- Some Hong Kong politicians, including the pro-Beijing lawmaker Regina Ip, have tried to dismiss the prospect of US sanctions by saying they wouldn’t affect the local economy very much.

US’s presence in Hong Kong economy:

- The US has a sizeable presence in the Hong Kong economy. It has the highest number of regional headquarters and offices in the city.
- Almost one-third of the city’s restricted license banks—those that mainly deal with merchant banking and capital market activities—are owned by US interests.
- It is also Hong Kong’s second-largest trading partner, after China, accounting for 6.2% of the total share.
- And in 2018, 8% of China’s exports to the US, worth \$37 billion, were routed through Hong Kong, according to the city’s trade and industry department.
- The US is also the single economy with the largest trade surplus with Hong Kong, at over \$33 billion in 2018. Scrapping Hong Kong’s trade status would jeopardize all of that, and more.

How will it impact?

- The US could impose targeted sanctions and roll back certain privileges.
- Or it could deploy arguably its most aggressive retaliatory tool and revoke Hong Kong’s special trade status.
- This is often referred to as the “nuclear” option, and would be hugely damaging not just to Hong Kong’s economy, but also a lot of US businesses.

◎ CONCLUSION:

The US announcement is likely to infuriate Beijing and further strain relations between the two sides, following disputes over the coronavirus pandemic and a prolonged trade war.

TRAI RELEASES RECOMMENDATIONS FOR DEVELOPING A 'UNIFIED NUMBERING PLAN'

CONTEXT

The Telecom Regulatory Authority of India (TRAI) released its latest recommendations for developing a 'Unified Numbering Plan' to ensure adequate numbering resources for fixed line (aka landline) and mobile services in the country.

◎ BACKGROUND

- The volume in cellphone adoption has led to a worry among telecom circles on the need for a eleven digit cellphone number.
- The Telecom Department had asked TRAI to furnish its recommendations on the strategies of National Digital Communications Policy which also talks of "ensuring adequate numbering resources, by developing unified numbering plan for fixed line and mobile services."
- Accordingly, the telecom sector watchdog had issued a consultation paper in this regard.

◎ ANALYSIS

Key-highlights of the recommendations:

- **Mandating prefix "0" for calling mobile numbers from a fixed line connection** - At present, mobile phones can be accessed from a fixed line phone without dialling a prefix "0".
 - ▶ The latest recommendations are, however, mandating "0" to be prefixed for dialling from a landline number.
 - ▶ This means that just like how you dial inter-service area mobile calls from a fixed line phone, you will be required to prefix "0" to access a mobile phone even within a service area.
 - ▶ It is important to note that there won't be any change in dialling landline to landline, mobile to landline, or mobile to mobile calls.
- **Shifting from 10-digit to 11-digit numbering scheme in case of mobile numbers** - The second major recommendation by TRAI is to switch from 10 to 11 digits for mobile numbers, with first digit as "9".
 - ▶ The regulator said that this new change will give a total capacity of 10 billion numbers.
- **Mobile numbers allotted for dongles to be shifted to 13 digits** - Just like the numbers associated with our mobile phones, various devices such as dongles and data cards currently have the

10-digit numbering scheme.

- ▶ The latest list of recommendations, however, include a point that such devices should be shifted from the existing 10-digit to 13-digit numbering scheme.
- ▶ This will also release some numbering resources, TRAI said in its recommendations.
- **Moving fixed line numbers to a sub-level of "2" or "4"** - Since some operators in the past offered landline connections to users with numbers starting from "3", "5", and "6" numeric that are no longer in service, TRAI has recommended to move the underutilised fixed line numbers to a sub-level of "2" or "4".
 - ▶ This will allow mobile operators to use the underutilised numbers for mobile phone connections in the future.
- **All fixed line connections should be provided with "0" dialling facility** - Currently, fixed line users who have opted for subscriber trunk dialling (STD) are only provided with "0" dialling facility.
 - ▶ TRAI, however, has recommended to allow all fixed line subscribers to use the "0" dialling facility.
 - ▶ This is essential as mobile numbers would be required to dial with the prefix "0" from landline numbers.

Why to switch from 10 to 11 digits?

- Switching from 10 to 11 digits with first digit for mobile numbers as '9' would give a total capacity of 10 billion numbers.
- With the current policy of allotment after 70 per cent utilisation, this would suffice till India has 7 billion connections.
- This could mean liberal allocation to service providers and administrative ease.
- TRAI also suggested shifting data only mobile numbers, which are used in data cards, dongles and other devices for internet access, to 13-digit numbering series since they are not used for voice calls

- It is also possible to provide private-numbering series for these numbers by the cellular mobile operators (which is internal to their network). This will release some of the numbering resources blocked by the operators.

About TRAI

- Telecom Regulatory Authority of India (TRAI) is an independent regulatory body established by the Telecom Regulatory Authority of India Act 1997 to oversee the telecommunications industry in India.
- TRAI is charged with ensuring the orderly growth of the telecom sector while protecting the interests of both telecom service providers and consumers.
- It encourages technological improvements and makes recommendations for how providers can improve efficiency and technical compatibility.

- To that end, TRAI establishes **standards for quality of service (QoS)** and supervises how service providers share revenue.
- TRAI also conducts periodical surveys to ensure that telecom service providers are acting in the best interest of consumers and are operating in compliance with universal service obligations.

◎ CONCLUSION:

India already has about 1.2 billion telephone numbers, with a tele-density of 87.47 percent. The number of fixed and mobile subscribers in the country is also growing rapidly. All this has chiefly led to finding new solutions to have adequate availability of number resources.

UK MOOTS 5G CLUB

CONTEXT

The British government has approached the US with the prospect of creating a 5G club of 10 democracies, including India, amid growing security concerns related to Chinese telecom giant Huawei.

◎ BACKGROUND

- The U.K. government had approved Huawei's participation in its 5G network, but later capped the company's network share at 35% following anger from the Trump administration, which has battled Beijing over the Chinese tech company's increasing dominance in the global wireless industry.
- The UK launched an inquiry into Huawei's involvement in the country's mobile network upgrade in the wake of US sanctions against the company.
- The review into Huawei, launched by the UK's National Cyber Security Centre, followed the announcement of US sanctions to block the sale of American chips to the company.
- UK security officials fear that the ban will prompt China to use cheaper, less secure technologies, instead of verified US versions.
- Officials are, meanwhile, examining proposals to curb the installation of Huawei kit in the 5G network from 2023.

◎ ANALYSIS

Understanding the 5G technology:

- 5G is the 5th generation mobile network. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks.
 - ▶ **First generation - 1G**
1980s: 1G delivered analog voice.
 - ▶ **Second generation - 2G**
Early 1990s: 2G introduced digital voice (e.g. CDMA- Code Division Multiple Access).
 - ▶ **Third generation - 3G**
Early 2000s: 3G brought mobile data (e.g. CDMA2000).
 - ▶ **Fourth generation - 4G LTE**
2010s: 4G LTE ushered in the era of mobile broadband.
- 5G is based on OFDM (Orthogonal frequency-division multiplexing), a method of modulating a digital signal across several different channels to reduce interference.

- 5G uses 5G NR air interface alongside OFDM principles. 5G also uses wider bandwidth technologies such as sub-6 GHz and mmWave.
- 5G enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.
- 5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users.
- Higher performance and improved efficiency empower new user experiences and connects new industries.

What is the D10 club?

A so-called "D10" club of democratic partners, including G7 countries – UK, US, Italy, Germany, France, Japan and Canada – plus Australia, South Korea and India will aim to create alternative suppliers of 5G equipment and other technologies to avoid relying on China.

Reason behind the move:

- The move to speed up such a club comes as the UK launched an inquiry into Huawei's involvement in the country's mobile network upgrade in the wake of US sanctions against the company.
- Nokia and Ericsson are the only European suppliers of 5G infrastructure and experts say that they cannot provide 5G kit as quickly or as cheaply as Huawei.
- Britain has labelled Huawei a high-risk vendor and therefore its involvement in the UK's 5G upgrade comes with a 35 per cent market cap, including a ban on its participation in the sensitive core of the network.

What the United States is doing?

- The US in recent months has increased its action against Huawei, China's first global tech brand and a maker of network equipment and smartphones, preventing it from doing business in the US, as it believes the company known for its technological advancement in 5G is being used by the Chinese leadership to serve their interest.

- The Trump administration says Huawei is a security risk, which the company denies, and is trying to persuade European and other allies to shun its technology for the next-generation telecom networks.
- China has accused the US of raising phony security concerns to hurt a rising competitor to American tech companies.

Where this alliance will lead to?

- More providers: The key thrust behind this alliance is to allow more and more 5G equipment and technology providers to come up.
- Controlling security flaws: At the same time, ensure that these new entrants belong to like-minded democratic regimes, thus alleviating any security concerns.

Why India needs 5G technology?

- The evolution of 5G is based on multiple pillars.
- When compared to 4G, 5G offers much higher capacity, ultra-low latency, very high speeds and better security. In fact, 5G can even offer fibre-like speeds, wirelessly, on millimeter wave frequency.
- Data consumption: India's is the second biggest smartphone market in the world, leading to a meteoritic rise of data consumption. India consumes more than 11 GB/user/month — the highest in the world. Existing infrastructure will struggle to address the growing demand for data.
- Lower fibre penetration: There is no practical way fibre connectivity can be enhanced quickly. This poses a serious challenge to back-haul capacities of the macro towers.
- Industry 4.0: The Fourth Industrial Revolution (aka Industry 4.0) is powered by emerging technologies like artificial intelligence, machine learning, Internet of Things, Edge Computing, which need 5G to be effective.
- Smart cities: 5G powers the technology driving smart cities. As India moves ahead with its Smart City vision, it must leverage 5G to ensure that the underlying technology remains relevant for a longer time.

- Economic benefit: The economic impact of 5G in India is likely to be \$1 trillion. By delaying 5G rollout, India stands the risk of missing out on the first flush of the 5G powered innovation cycle.

As such, the case for immediate roll out of 5G networks in India is compelling. It is no longer a choice but a pre-requisite for the country's growth and development.

The future of 5G technology in India:

- Worldwide, more than 40 telecom operators have already launched 5G. But given the current turmoil in India's telecom industry, pundits continue to question the need — and viability — of launching 5G here.
- While 5G phones are already available in India from Realme and iQoo, both Chinese-owned, the 5G spectrum and the networks are going to take time.
- 5G networks were once expected to be launched in India by late 2020 or early 2021, but it's now highly unlikely that this could happen before mid-2021.
- Even if a date is soon set to auction the spectrum and the telcos quickly find the money to buy it, they still need to perform a lot of tests before launching commercial service.
- Ericsson, a network equipment vendor based in Sweden, has said 5G service is likely to be available in India only from 2022.

CONCLUSION:

The plan to form a democratic alliance in order to marginalise the Chinese tech giant Huawei comes at a time when there is rising global backlash against China for its initial handling of the coronavirus outbreak. There is also growing consensus among the British political class regarding resetting relations with Beijing, following the global pandemic and the havoc it has caused in the UK. Moreover, there has been a concerted effort by the US and several other countries to keep Huawei away from their countries' 5G networks. These countries have raised concerns regarding potential surveillance and breach of their national security by China using the state-run Huawei.

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IAF'S FAMED 18 SQUADRON TO BE OPERATIONALISED YET AGAIN

◎ CONTEXT:

- The Indian Air Force's 18 Squadron, which earned the nickname of Defenders of Kashmir Valley for being the first to land and operate from Srinagar, has been operationalised once again at Air Force Station Sulur near Coimbatore.

What is 18 Squadron?

- 18 Squadron was formed on 15 April 1965 with the motto 'Teevra aur Nirbhaya' meaning 'Swift and Fearless'.
- The Squadron was flying MiG 27 aircraft before it got number plated on 15 April 2016.
- The squadron actively participated in the 1971 war with Pakistan and was decorated with the highest gallantry award 'Param Vir Chakra' awarded to Flying Officer Nirmal Jit Singh Sekhon posthumously.

The 1971 War:

- On 14th December 1971, Flying Officer Sekhon had defended the Srinagar airfield from a wave of six Pakistani Sabre aircraft.
- He engaged a pair of the attacking Sabres. In the fight that ensued, he secured hits on one aircraft and set another on fire.
- By this time the other Sabre aircraft came to the aid of their hard pressed companions and Flying Officer Sekhon's Gnat was again outnumbered, this time by four to one.
- Even though alone, Flying Officer Sekhon engaged the enemy in an unequal combat.
- In the fight that followed, at tree top height, he almost held his own, but was eventually overcome by sheer weight of numbers. His aircraft crashed and he was killed.

- In IAF jargon, a squadron which is bereft of aircraft is not retired but 'number-plated'. This means that the squadron exists and could be revived when aircraft are available.
- The Squadron was resurrected on April 1 this year at Sulur. The Squadron was presented with President's Standard in November 2015.
- The squadron will be equipped with LCA Tejas FOC aircraft and will be the second IAF Squadron to fly LCA Tejas.

About Tejas:

- Tejas is an indigenous fourth generation tailless compound delta wing aircraft.
- The aircraft is equipped with fly-by-wire flight control system, integrated digital avionics, multimode radar and its structure is made out of composite material.
- It is the lightest and smallest in its group of fourth generation supersonic combat aircraft.

ILO CONCERNED OVER LABOUR LAW SUSPENSION IN INDIA

◎ CONTEXT:

- International Labour Organisation (ILO) assured 10 central unions that it has expressed deep concerns over the suspension and tweaking of labour laws by states to the Prime Minister Narendra Modi.

Labour jurisdiction in India:

- Under the Constitution of India, Labour is a subject in the Concurrent List where both the Central & State Governments are competent to enact legislation subject to certain matters being reserved for the Centre.
- The constitutional status of labour jurisdiction has been explained in the following table:

Union List (Central Government)	Concurrent List (Central as well as State Government)
Regulation of labour and safety in mines and oil fields	Trade unions, industrial and labour disputes
Industrial disputes concerning Union employees	Social security and insurance, employment and unemployment
Union agencies and institutions for vocational training	Welfare of labour including conditions of work, provident funds, employers' invalidity and old-age pension and maternity benefits

Indian Labour Laws:

- Estimates vary but there are over 200 state laws and close to 50 central laws. And yet there is no set definition of "labour laws" in the country.
- The Government has enacted certain central legislations, viz, the Employees Provident Fund and Miscellaneous Provisions Act, Employees State Insurance Act, Payment of Wages Act, Minimum Wages Act, Equal Remuneration Act, Maternity Benefits Act, etc.
- Broadly speaking, they can be divided into four categories.

Challenges in Indian Labour Laws:

- **Inflexible rules:** Indian labour laws are often characterised as "inflexible". Due to the onerous legal requirements, firms (those employing more than 100 workers) dither from hiring new workers because firing them requires government approvals.
- **Constraint growth:** Even the organised sector is increasingly employing workers without formal contracts. This, in turn, the argument goes, has constrained the growth of firms on the one hand and provided a raw deal to workers on the other.
- **Unnecessary & too many laws:** There are too many laws, often unnecessarily complicated, and not effectively implemented. This has laid the foundation for corruption and rent-seeking.

◎ BACKGROUND:

- The ILO's intervention came after 10 central trade unions escalated the issue of suspension and tweaking of labour laws with the international body through a letter.
- These unions are INTUC, AITUC, HMS, CITU, AIUTUC, TUCC, SEWA, AICCTU, LPF and UTUC. There are total 12 central trade unions in the country.
- The 10 central trade unions had asked the ILO DG to intervene immediately with the Indian authorities to urge necessary action for the protection of workers rights in the light of measures being taken by a number of state governments to undermine the labour legislation and international labour standards.
- They have pointed out that the central government is contemplating repealing of Inter State Migrant Workmen (Regulation of Employment and Conditions of Service) Act 1979.

- Undertaking a radical set of politically controversial economic reform measures, major states with substantial workforces, have frozen major labour laws, except basic ones, in the hope that businesses will recoup from the blow of the Covid-19 pandemic and create more jobs on a net basis.

Is it a violation?

- India has inked many conventions with ILO which commensurate with the existing legal system and laws of the land.
- A country can ratify a convention with ILO after putting in place all provisions mandated in its laws and legal framework.
- Thus, a change in labour laws or suspending those may lead to violation of these conventions, which are also an international commitment by ratifying nations.
- India will have to balance the need for businesses to grow along with maintaining labour safety nets. Labour law reforms, a necessity, have been a long time coming. In the current situation, job security needs to be replaced with the concept of income security.

GOVT NOTIFIES BS-VI EMISSION NORMS FOR QUADRICYCLES'

◎ CONTEXT:

- The government has notified BS-VI emission norms for quadricycles, paving the way for higher production of the new category of vehicle that was introduced less than two years ago.

What is quadricycle?

- A quadricycle is the size of a three-wheeler but with four tyres and is fully covered like a car.
- It has an engine like that of a three-wheeler. This makes it a cheap and safe mode of transport for last-mile connectivity.
- A quadricycle cannot be more than 3.6 metres long, should have an engine smaller than 800cc, and should not weigh more than 475 kilograms.
- In 2018, the government had introduced the quadricycle segment with necessary standards to produce the vehicle.
- It had approved the vehicle for both commercial and private use.
- India's automobile industry has been urging the ministry to set BS-VI emission standards for quadricycles, after the norms were rolled out for other segments starting 1 April, 2020.
- Currently, only a few automobile players in India manufacture quadricycles.
- After the government had allowed the introduction of the vehicle in 2018, Bajaj Auto Ltd was the first to commercially launch 'Qute' under this segment.

The new notification:

- This notification completes the process of BS-VI for all L, M, and N category vehicles in India. The emission norms are in line with EU with World Motorcycle Test Cycle (WMTC).
- WMTC is a system of driving cycles used to measure fuel consumption and emissions in motorcycles.
- The methods are stipulated as part of the Global Technical Regulation established under the United Nations' World Forum for Harmonisation of Vehicle Regulations, also known as WP.

What is Bharat Stage Emission Standards?

- Bharat stage (BS) emission standards are laid down by the government to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles.
- The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles from April 1, 2020.
- The first emission norms were introduced in India in 1991 for petrol and in 1992 for diesel vehicles.
- Followed these, the catalytic converter became mandatory for petrol vehicles and unleaded petrol as introduced in the market.

The difference between BS-IV and BS-VI:

- Both BS-IV and BS-VI are unit emission norms that set the maximum permissible levels for pollutants that an automotive or a two-wheeler exhaust can emit.
- Compared to the BS4, BS6 emission standards are stricter.
- Whereas makers use this variation to update their vehicles with new options and safety standards, the biggest modification comes in the permissible emission norms.
- The following are the key differences between BS4 and BS6 emission norms:
- **Diesel Particulate Filter (DPF) and Selective Catalytic Reduction (SCR)** are being introduced with the roll-out of Bharat Stage VI norms, which were not a part of Bharat Stage IV.
- **Real Driving Emission (RDE)** will be introduced in India for the first time with the implementation of Bharat Stage VI emission norms.
- RDE will measure a vehicle's emission in real-time conditions against laboratory conditions.
- **Onboard Diagnostics (OD)** has been made mandatory for all vehicles with BS6.
- **Sulphur and Nitrogen Oxide** The most crucial difference between BS6-grade fuel and BS4-grade fuel will be in terms of Sulphur and Nitrogen Oxide content.
- The sulphur traces in BS6 fuel is five times lower (10 ppm) as compared to sulphur traces in BS4 fuel (50 ppm).
- Further, nitrogen oxide level for BS6-grade diesel engines and petrol engines will be brought down by 70% and 25%, respectively.

◎ CONCLUSION:

- Automobile manufacturers will now be able to produce petrol, diesel, CNG and biofuel quadricycles for the Indian market. While the Ministry had notified BS-VI standards for all vehicle categories long ago, the same had been pending for quadricycles.

PUNTIUS SANCTUS

◎ CONTEXT :

- Velankanni in Tamil Nadu has thrown up a new species of small freshwater fish of the family Cyprinidae.

◎ ABOUT:

- The silver-hued fish has been christened **Puntius sanctus** — 'sanctus' is Latin for holy — after the popular pilgrim town.
- Encountered in a small waterbody in Venlankanni, Puntius sanctus is small, it grows to a length of 7 cm.
- It found use both as food and as an aquarium draw.

- The *Puntius* species are known locally as 'Paral' in Kerala and 'Kende' in Tamil Nadu. They are purely freshwater fishes.
- While the genus shows great species richness in Kerala and Tamil Nadu, the specimen from Velankanni bears "distinct differences" from its *Puntius* cousins.
- Its physical characteristics included a protractible mouth, a pair of maxillary barbels (a sensory organ near the snout), 24-25 lateral line scales and 10 pre-dorsal scales.
- The identification of *Puntius sanctus* also indicated that many of our inland waterbodies were still unexplored.
- *Bioscience Research* has published an article on the discovery.

Cyprinidae family:

- Cyprinidae family, also commonly called the carp family or the minnow family, is a large family of freshwater fish containing many of the carp-like fishes and minnow types.
- They can be found throughout Asia, most of Africa, Europe, and North America.
- The only place they are not to be found is South America and Australia.
- They come in all sizes from giant game fish to numerous small species less than 2 inches (5 cm).
- **Examples** Included in the Cyprinidae family are well-known aquarium favorites such as barbs, danios, rasboras, and various freshwater sharks.
- One of the best fish in this group for algae control is the Chinese Algae Eater.
- This family also includes minnows, bitterlings, daces, asps, roachs, flying fox, and chubs.

Registration:

- The new fish is now deposited in Government of India museum (Zoological Survey of India) at Pune.
- It has also been registered with ZooBank of the International Commission of Zoological Nomenclature, the official authority for naming animals.

ZooBank:

- ZooBank is the official registry of Zoological Nomenclature, according to the International Commission on Zoological Nomenclature (ICZN).
- Currently, ZooBank accommodates the registration of four different kinds of data objects:
 - Nomenclatural Acts: Published usages of scientific names for animals, which represent nomenclatural acts as governed by the ICZN Code of Nomenclature. Most of these acts are 'original descriptions' of new scientific names for animals, but other acts may include emendations, lectotypifications, and other acts as governed by the ICZN Code.
 - Publications: Publications that contain Nomenclatural Acts, as defined above.
 - Authors: Anyone who is an author of one or more Publications (as defined above), or who is a contributor to ZooBank content.
 - Type Specimens: Type specimens for scientific names of animals. The registration of Type Specimens is considered provisional and is not yet fully implemented in ZooBank.

WORLD TURTLE DAY

© CONTEXT:

- The National Mission for Clean Ganga (NMCG), along with the Wildlife Institute of India (WII), its project partner in the 'Biodiversity Conservation Initiative Phase II', celebrated World Turtle Day.

What is World Turtle Day?

- World Turtle Day is an annual event that has been taking place since 2000. It was founded by **American Tortoise Rescue**.
- The purpose of World Turtle Day is to educate people about the things that they can do to protect the habitats of turtle and tortoises.
- It is also a celebration of the joy that these reptiles bring to so many people on a daily basis.
- World Turtle Day 2020 focuses on bringing attention and increasing knowledge on the subject of tortoises and turtles.
- In addition, it also includes motivating humans to step forward virtually and help them survive.

American Tortoise Rescue:

- American Tortoise Rescue (ATR) was founded in 1990 by husband and wife team Susan Tellem and Marshall Thompson.
- It is a non-profit organisation that rescues and rehabilitates all species of tortoise and turtle.

About Turtle:

- Turtles are reptiles with hard shells that protect them from predators. They are among the oldest and most primitive groups of reptiles, having evolved millions of years ago.
- Most of the species of turtles and tortoises are vulnerable, endangered or critically endangered, according to the IUCN.
- Turtles breathe air and lay their eggs on land, which makes them amniotes. Even though they spend most of their lives underwater, they still lay their eggs on land.
- Most of the sea creatures are anamniotes, which means they lay their eggs underwater.
- There are seven known species of sea turtles: **loggerhead, green turtle, leatherback, hawksbill, Kemp's ridley, flatback, and olive ridley**.
- The turtle order, Testudines (or Chelonia), splits into two suborders, Cryptodira and Pleurodira, and then further splits into 13 families, 75 genera and more than 300 species.

Important details	
Kingdom	Animalia
Subkingdom	Bilateria
Infrakingdom:	Deuterostomia
Phylum:	Chordata
Subphylum:	Vertebrata
Infraphylum:	Gnathostomata
Superclass:	Tetrapoda
Class:	Reptilia
Order:	Testudines (also called Chelonia)
Suborders:	Cryptodira, Pleurodira

Threats to Turtles

- **Fisheries Bycatch:** The fishing industry contributes to the death of thousands to tens of thousands of sea turtles each year.
- **Coastal development:** Every year, sea turtle habitats are destroyed because of shrinking coastlines. Wherever there is boat vessel traffic, whenever a new hotel or high-rise is built up along the shore, and wherever there is sea floor dredging and beach erosion sea turtle food supplies and nesting areas take a major hit.

- **Pollution & Pathogens:** Marine pollution can harm sea turtles in many ways. Plastic pollution, discarded fishing gear, petroleum by-products, and other debris injure sea turtles through ingestion and entanglement.
- **Climate change:** Climate change can impact the natural sex ratios of hatchlings, increase the likelihood of disease outbreaks, and can escalate the frequency of extreme weather events, which destroy nesting beaches and coral reefs.
- The day is an opportunity for people to celebrate turtles as well as mobilize efforts in protecting them and their habitats globally.

EARTH'S MAGNETIC FIELD IS WEAKENING

◎ CONTEXT

- The Earth's magnetic field is weakening between Africa and South America, causing issues for satellites and space craft. Scientists studying the phenomenon observed that the South Atlantic Anomaly has grown considerably in recent years, though the reason for it is not entirely clear.

What is the magnetic field of Earth?

- Earth's magnetic field is the magnetic field that extends from the Earth's interior out into space exerting a force on the charged particles emanating from the Sun.
- It gets stretched out into a comet-like shape with a tail of magnetism that stretches millions of miles behind the Earth, opposite from the Sun.
- The magnetic field of Earth protects the life of Earth from the harmful cosmic radiation and charged particles emitted from the Sun.

What causes it?

- The magnetic field of the Earth is due to the metallic and liquid outer core of the planet, around 3,000 km below our feet.
- It creates electric currents that generate and change our electromagnetic field. The outer core of the planet is like a giant dynamo.
- The rotation of the Earth creates movements inside the liquid outer core which gives rise to the geomagnetic field.
- The Northern Lights in the Polar Regions are also caused by the magnetic field of Earth – the energy particles emitted by the Sun are channelled by the Earth's magnetic field towards the poles, where they interact with the atmosphere to create the aurora borealis.

What scientists have found?

- Using data gathered by the European Space Agency's (ESA) Swarm constellation of satellites, researchers noted that the area of the anomaly dropped in strength by more than 8 per cent between 1970 and 2020.
- The magnetic field has lost nearly nine per cent of its strength on a global average in the last 200 years.
- This year, the "minimum field strength" in the South Atlantic Anomaly has seen a drop of around 24,000 nanoteslas to 22,000 from its strength in 1970.
- The area of anomaly has also grown in this period. The patch has also moved farther west at a rate of roughly 12 miles per hour over the last 50 years.
- The last time a "geomagnetic reversal" took place was 780,000 years ago, with some scientists claiming that the next one is long overdue. Typically, such events take place every 250,000 years.

About South Atlantic Anomaly:

- The South Atlantic Anomaly (SAA) is a stretch between Africa and South America.
- SAA is an occurrence that takes place due to something known as the **Van Allen Radiation Belts**.
- These Van Allen radiation belts are responsible for trapping radioactive particles near the coast of Brazil, which creates the SAA phenomenon.

Van Allen radiation belts:

- A radiation belt refers to a layer of charged and energetic particles which is held by the planet's magnetic field around the planet.
- The Van Allen belt specifically refers to the radiation belts around the Earth.
- The main constituents of the belts are believed to come from solar wind and cosmic rays. The belt is divided into two belts - outer and inner.
 - The inner belt extends from roughly 600 miles to 3,700 miles, that is, from 1,000 km to 6,000 km above the earth's surface.
 - The outer belt extends from 9,200 miles (15,000 km) to 15,600 miles (25,000 km) above the surface.

How will it impact?

- The weakening of magnetic field gives rise to speculations that Earth is heading for an eminent pole reversal, a phenomenon in which north and south poles switch places.
- The repercussions of such an event could be significant, as the Earth's magnetic field plays an important role in protecting the planet from solar winds and harmful cosmic radiation.
- Telecommunication and satellite systems also rely on it to operate, suggesting that computers and mobile phones could experience difficulties. The South Atlantic Anomaly is already causing issues with satellites orbiting Earth, while spacecrafts flying in the area could also experience "technical malfunctions".
- Birds, turtles and other creatures also use the magnetic field of Earth to navigate. In effect, the navigation systems and mapping functions in smartphones may be affected.

© CONCLUSION:

- The process is not an instantaneous one and could take tens of thousands of years to take place. The mystery of the origin of the South Atlantic Anomaly has yet to be solved. However, one thing is certain: magnetic field observations from Swarm are providing exciting new insights into the scarcely understood processes of Earth's interior.

NEW DOMICILE ORDER AND RULES

© CONTEXT:

- Despite the Covid-19 pandemic, the Centre is moving fast to integrate the Union Territory of Jammu and Kashmir and has passed new domicile order and rules, evoking sharp reaction from stakeholders like unemployed youth, traders and all mainstream political parties.

Who can be 'domiciled' or 'employed' in J&K?

- The new rule only reserves non-gazetted class four jobs for Jammu & Kashmir natives.
- It also lists certain conditions one should fulfil to qualify as a domicile applicant — applicants should have resided in J&K for 15 years, or studied in the state for seven years and appeared in either the Class 10 or the Class 12 examination there.

- Children of central government officers (Army, paramilitary forces, IAS, IPS), and employees of public sector undertakings and banks, central universities etc who have served in Jammu & Kashmir for 10 years will also be eligible to apply for gazetted and non-gazetted government jobs. These included those who work outside the state.
- Migrants registered by the Relief and Rehabilitation Commissioner need not fulfil the aforementioned requirements and will automatically be eligible for a domicile certificate.

◎ BACKGROUND:

- On August 5, 2019, Parliament had diluted Article 370 of the Constitution, revoked the special status of J&K and had bifurcated the State into two Union Territories-
 - J&K
 - Ladakh
- The two revoked provisions of the Constitution let the J&K Legislature decide the "permanent residents", prohibiting a non-J&K resident from buying property there and ensuring job reservation for its residents.
- In March this year, the Ministry of Home Affairs (MHA) issued the Jammu and Kashmir Reorganisation (Adaptation of State Laws) Order, 2020 by publishing a gazette notification.
- Through the order, the MHA amended 109 laws and repealed 29 laws of the erstwhile State of Jammu and Kashmir.
- The MHA amended a 2010 legislation, the Jammu and Kashmir Civil Services (Decentralisation and Recruitment Act), by substituting the term "permanent residents" with "domiciles of UT [Union Territory] of J&K."
- The 2010 Act pertained to employment in the Civil Services comprising "district, divisional and State" cadre posts.
- Earlier, only permanent residents of J&K were eligible to apply for gazetted and non-gazetted posts.

◎ CONCLUSION:

- Though the new domicile order for J&K ostensibly deals only with jobs, it has created a new category of residents of J&K which every citizen of India can become through a process. The new rules explicitly show that the central government wants to speed up the process.

AFRICAN SWINE FEVER

◎ CONTEXT:

- **China, the biggest consumer of pork in the world, has banned the import of pigs and wild boars from India to prevent the spread of the African swine fever (ASF).**

◎ ABOUT:

- African swine fever (ASF) is a severe viral disease affecting domestic and wild pigs.
- This transboundary animal disease (TAD) can be spread by live or dead pigs, domestic or wild, and pork products; furthermore, transmission can also occur via contaminated feed and fomites (non-living objects) such as shoes, clothes, vehicles, knives, equipment etc., due to the high environmental resistance of ASF virus.
- There is no approved vaccine against ASF (unlike classical swine fever ('Hog Cholera') which is caused by a different virus). For this reason, it has serious socio-economic consequences in affected countries.
- Humans are not susceptible to the disease.
- The typical signs of African swine fever are similar to classical swine fever, and the two diseases normally have to be distinguished by laboratory diagnosis.

- **Symptoms:** Symptoms include fever, loss of appetite, lack of energy, abortions, internal bleeding, with haemorrhages visible on the ears and flanks. Sudden death may occur.
- Severe strains of the virus are generally fatal (death occurs within 10 days). Animals infected with mild strains of African swine fever virus may not show typical clinical signs.

Outbreaks:

- Historically, outbreaks have been reported in Africa and parts of Europe, South America, and the Caribbean.
- It was **first detected in Africa in the 1920s**.
- More recently (since 2007) the disease has been reported in multiple countries across Africa, Asia and Europe, in both domestic and wild pigs.

Highlights of the decision:

- The decision has been taken following cases of ASF being discovered among domestic pigs and wild boar in Assam earlier in May.
- The ban has taken effect China strives to restore pig production after the deadly disease ravaged its massive herd last year.
- A sharp 29% plunge in first-quarter output underlines the extent of the impact from the disease and the huge task the sector faces in trying to rebuild after African swine fever killed millions of pigs since August 2018.
- The ASF outbreak and culling of hogs slashed China's pork output to a 16-year low of 42.6 million tonnes in 2019, while some experts estimate the sow herd shrank by at least 60% last year after the disease spread throughout the country.
- In December, tighter border controls put in place by China because of the ASF had impacted the export of buffalo meat from India.
- Since February this year, African swine fever (ASF) has killed over 17,000 pigs in Assam and an unknown number in Arunachal Pradesh. This is the first time India has reported the disease, and since ASF hasn't 'been' to India before, officials took some time to confirm its presence.

PURANDARA DASA

◎ CONTEXT:

- The Department of Archaeology, Heritage and Museums will commence field research work at Keshavapura in Araga Gram Panchayat (GP) of Tirthahalli taluk to explore definitive archaeological evidences that may put an end to speculations regarding the birthplace of Purandara Dasa.

Who was Purandara Dasa?

- Purandara Dasa was a saint who belonged to Haridasa tradition.
- Prior to his initiation to **Haridasa tradition**, Purandara Dasa was a rich merchant and was called as **Srinivasa Nayaka**.
- He became the student of Shri Vyasathirtha, the prominent madhwa guru and also the rajaguru of Vijayanagara kingdom.
- There, Srinivasa Nayaka became Purandara Dasa. The word 'Dasa' means servant of god.
- He started writing his kritis with the ankithanaama/pen name '**Purandara Vittala**'.
- Referring to this, the proponents of the theory that Puranadara Dasa was born in Malnad point out at that 'Nayaka' title was attributed to locally influential people, including wealthy merchants in Malnad during the Vijayanagar rule.

Dasa's contribution to music:

- Purandara Dasa Pitamaha is the father of Carnatic Music, saint, philosopher and teacher.
- Purandaradasa was instrumental in structuring the basic lessons in Carnatic classical music.
- These were organised into *Sarali varases, Janti swaras, Alankaras, Lakshana geetas, Prabandhas, Ugabhogas, Daatu varase, Geetams, Sooladis and Kritis*.
- He introduced the raaga **Maayamalavagowla** as the basic scale for music instruction and fashioned series of graded lessons.
- This is the structure that is still used in practise. All the lessons in Riyaz are structured that way as well.
- Purandara Dasa is said to have composed 475,000 songs in both Kannada and Sanskrit.
- There are 84 ragas which he identified including the ones such as Kalyani, Varali, Todi, Bhairavi, and Saveri which are popular today.
- Sri Thyagaraja was greatly influenced by him and offered homage to him in his Prahalada Bhakthi Vijayam.
- Purandarasa's work was completed by Thyagaraja, two centuries later.

Social reform:

- Dasaru was also one of the social reformers in 14th Century.
- Simplified worship He simplified worship for the common people who could not understand Sanskrit, the language which was much prevalent for religious purposes.
- Most of his kritis do speak on reforming the society which has elusive barriers in terms of caste, religion and the immense lust of conquering kingdoms/wars.
- Made music accessible to all the classical music form which was only restricted to the durbar halls of the kings was made accessible to the common man who earlier had barriers of language and status.
- This, along with structuring the music and putting a foundation to Carnatic Music was his biggest contribution.
- For all his works, his own guru Shri Vyasathirtha appreciated him and said "Dasarendare Purandaradasarayya" meaning "Among the devotees of Hari, Purandara Dasa is the greatest".

Purandharagad or Malnad?

- As 'Purandara Vithala' was the pen name of his compositions, it was widely believed that the mystic poet was born in **Purandharagad**, Maharashtra.
- However, many in Malnad claimed that he hailed from this region.
- According to historians, Araga in Malnad was a buzzing commercial centre during the Vijayanagar rule, the period to which the poet belonged to.
- Referring to the names of the places in the vicinity of Keshavapura — Varthepura, Vithalanagundi, Dasanagadde, it was argued that these places were inhabited by merchant community influenced by Vaishnava tradition to which Purandara Dasa belonged.
- Many words that figured in Purandara Dasa's compositions were used by people in Malnad then in their day-to-day life.

INTERNATIONAL DAY OF UN PEACEKEEPERS

◎ CONTEXT:

- International Day of UN Peacekeepers is observed on May 29. On this day, tributes are paid to those people who have immensely contributed in the work done by the United Nations.

◎ ABOUT:

- The International Day of United Nations Peacekeepers is celebrated annually on May 29.
- This is the date when in 1948 the first UN peacekeeping mission named the "United Nations Truce Supervision Organization", or UNTSO, began operations in Palestine.
- The day is observed in honour of the uniformed and civilian personnel for their contribution to the work of the organization.
- Moreover, the day is also celebrated to honour more than 3,900 peacekeepers who have lost their lives serving under the U.N. flag since the year 1948.

India & UN Peacekeeping Operation:

- Indian Army has been taking part in UN peacekeeping operations since 1950.
- Units and troops of the Indian Army have been part of 49 UN Missions with over 1,95,000 troops having served in various parts of the world.
- Presently, India is ranked as the third largest troop contributor to the UN peacekeeping missions.
- India currently contributes more than 5,400 military and police personnel to the UN peacekeeping operations in Abyei, Cyprus, Congo, Lebanon, the Middle East, Sudan, South Sudan, Western Sahara as well as one expert to the UN Assistance Mission in Somalia.

First Indian Peacekeeper:

- Major Suman Gawani, an Indian Army officer and a Military Observer formerly deployed with the United Nations Mission in South Sudan (UNMISS), will receive the 2019 United Nations Military Gender Advocate of the Year Award along with Brazilian Navy officer Commander Monteiro de Castro Araujo.

Major Suman Gawani is also the first Indian peacekeeper to win the prestigious award.

The Theme:

- The theme of International Day of UN Peacekeepers 2020 is "Women in Peacekeeping: A Key to Peace".
- This theme has been chosen as it is the 20th anniversary of the adoption of UN Security Council Resolution 1325 on Women, Peace and Security.
- Women peacekeepers make an invaluable contribution to peacekeeping and are essential for promoting sustainable peace and help in improving overall peacekeeping performance.
- They also help in improving the peacekeeping performance as well as help in promoting human rights, social parity and encourage women to become a meaningful part of peace.
- The world is facing one of its greatest challenges – the COVID-19 pandemic. Peacekeepers are assisting world governments as well as the local communities in response to the pandemic. Women peacekeepers are on the front lines during this battle, and the world is grateful for their hard work and sacrifices.

BOTH KOREAS VIOLATED THE ARMISTICE AGREEMENT UNC

◎ CONTEXT:

- Both North and South Korea recently violated the armistice agreement that governs their shared border, according to a probe by the United Nations Command (UNC).

What is armistice agreement?

- This armistice signed on July 27, 1953, formally ended the war in Korea. North and South Korea remain separate and occupy almost the same territory they had when the war began.
- The Korean War, which began on June 25, 1950, when the North Koreans invaded South Korea, officially ended on July 27, 1953.
- The Korean Armistice Agreement is somewhat exceptional in that it is purely a military document—no nation is a signatory to the agreement.
- Specifically the Armistice Agreement:
 - suspended open hostilities
 - withdrew all military forces and equipment from a 4,000-meter-wide zone, establishing the Demilitarized Zone as a buffer between the forces
 - prevented both sides from entering the air, ground, or sea areas under control of the other
 - arranged release and repatriation of prisoners of war and displaced persons
 - established the Military Armistice Commission (MAC) and other agencies to discuss any violations and to ensure adherence to the truce terms

Demilitarized Zone (DMZ):

- Stretching 150 miles along the 38th parallel, the 2.5-mile-wide Demilitarized Zone (DMZ) was established in 1953 as a buffer zone between the warring communist north and capitalist south.
- Today, the DMZ proliferates in popular culture as one of the most heavily fortified borders in the world and a living vestige of the Cold War era—it's also a tourist attraction.

A brief history of North and South Korea:

- North and South Korea have been divided for more than 70 years, ever since the Korean Peninsula became an unexpected casualty of the escalating Cold War between two rival superpowers: the Soviet Union and the United States.
- In 1945, at the conclusion of World War II, the United States and Soviet Union partitioned the peninsula at the 38th parallel with little regard to the sentiments of the Korean people.
- Arbitrarily divided by ideologically opposed, interloping regimes, tensions between the North and South soon escalated into the three-year Korean War that ravaged the population.
- On July 27, 1953, the DMZ was established as part of ceasefire negotiated between UN and communist forces. A peace treaty was never signed.

About UNC:

- The UNC is commanded by an American general.
- It oversees affairs in the heavily fortified Demilitarized Zone (DMZ) between the two Koreas, which remain technically at war.

INDIA AND CHINA ACTIVATE BORDER MECHANISM TALKS

◎ CONTEXT:

- India and China have activated the “working mechanism” at the diplomatic level, alongside the military-to-military conversation taking place at the field level to “dis-engage” and “de-escalate” the situation.

What is Working Mechanism for Consultation & Coordination?

- The “Working Mechanism for Consultation & Coordination on India-China Border Affairs (WMCC)” was established in January 2012 after border talks between then National Security Adviser (NSA) Shivshankar Menon and his Chinese counterpart Dai Bingguo, and is headed by joint secretary-level officials from both sides.
- They are entrusted to help the special representative for boundary talks, a position currently held by NSA Ajit Doval.
- While joint secretary (East Asia) in the Ministry of External Affairs (MEA), Naveen Srivastava, leads the Indian side, the Chinese side is led by Hong Liang, Director General, Department of Boundary and Oceanic Affairs, Chinese Ministry of Foreign Affairs.
- These officials have had 14 meetings since 2012, the last one in July 2019, and meet more frequently than the special representatives.

Important Pacts:

- The border between China and India is 3,488 kilometres (2,167 mi) in length and often in sparsely populated areas.
- Its exact location has never been formally defined and is thus vague and in dispute.
- There are five major pacts that both sides agreed upon on the issue of maintaining “peace and tranquillity” along the borders. The pacts are-
- the 1993 Agreement on Maintenance of Peace and Tranquillity along the Line of Actual Control in the India-China Border Areas
- the 1996 Agreement on Confidence Building Measures in the Military Field along the LAC
- the 2005 Protocol on Modalities for the Implementation of the Confidence Building Measures in the Military Field along the LAC
- the 2012 Agreement on the Establishment of a Working Mechanism for Consultation and Coordination on India-China Border Affairs
- 2013 Border Defence Cooperation Agreement

The current situation:

- India’s assessment is that the Chinese are involved in what is known in military parlance as “holding the line”.
- While there is no agreed Line of Actual Control (LAC), both Chinese and Indian troops patrol up to their “claim lines” and then return.
- In the current situation, it appears that the Chinese have crossed their perception of LAC and are now camping at the spot in a bid to “hold the line”.
- This “holding the line” tactic is backed by a large number of Chinese troops — much more than ordinary patrols, which is usually has 25-30 soldiers.
- This appears to give the impression that the Chinese are keen to dig their heels in.

The US’s angle:

- US President Donald Trump offered to mediate between India and China to resolve what he called a “raging border dispute”.

-
- This is the first time that a US President has offered to mediate between India and China, even as Washington has shown willingness many a time to be a peacemaker between Delhi and Islamabad.
 - China, however, has said Delhi and Beijing were in touch with each other to address the issue, pre-empting Trump's move.

ASSOCIATED MEMBERS NOMINATED FOR DELIMITATION COMMISSION

◎ **CONTEXT:**

- The Lok Sabha Speaker has nominated 15 MPs from Jammu and Kashmir, Assam, Manipur, Nagaland and Arunachal Pradesh as "associate members" of the Delimitation Commission to assist the panel in redrawing parliamentary and assembly constituencies of the northeastern states and the union territory.

About Delimitation Commission:

- The Delimitation Commission is a commission established by the Government of India under the provisions of the Delimitation Commission Act to redraw the boundaries of the various assembly and Lok Sabha constituencies on a recent census.
- **Under Article 82 of the Constitution of India**, the Parliament enacts a Delimitation Act after every Census.
- **Under Article 170**, States also get divided into territorial constituencies as per Delimitation Act after every Census.
- The Central Government constitute the Delimitation Commission which consists of three members as follows:—
 - one member, who shall be a person who is or has been a Judge of the Supreme Court, to be appointed by the Central Government who shall be the Chairperson of the Commission
 - the Chief Election Commissioner or an Election Commissioner nominated by the Chief Election Commissioner, ex officio:
- Provided that after the nomination of an Election Commissioner as a member under this clause, no further nomination under this clause shall be made except to fill the casual vacancy of such member under section 6
 - the State Election Commissioner of concerned State, ex officio.
 - In India, such Delimitation Commissions have been constituted four times —
 - in 1952 under the Delimitation Commission Act, 1952
 - in 1963 under Delimitation Commission Act, 1962
 - in 1973 under Delimitation Act, 1972
 - in 2002 under Delimitation Act, 2002

◎ **BACKGROUND:**

- The government had on March 6 constituted the Delimitation Commission, to be headed by former Supreme Court judge Ranjana Prakash Desai, to redraw Lok Sabha and Assembly constituencies of the Union Territory of Jammu and Kashmir and the northeastern states of Assam, Arunachal Pradesh, Manipur and Nagaland.
- The commission will delimit the constituencies of Jammu and Kashmir in accordance with the provisions of the Jammu and Kashmir Reorganisation Act, and of Assam, Arunachal Pradesh, Manipur and Nagaland in accordance with the provisions of the Delimitation Act, 2002.

Associate members:

Members of Parliament and Legislative Assemblies of states, for which the Delimitation Commission is set up, are drawn in as associate members to help the panel in its task.

Delimitation in Jammu & Kashmir:

- Delimitation in Jammu and Kashmir will be carried out per the provisions of J&K Reorganisation Act that split the state into two union territories of Jammu and Kashmir with an assembly and Ladakh without an assembly.
- Jammu and Kashmir at present has no Legislative Assembly. It is a Union Territory with a provision of a legislature.
- The delimitation in J&K will be based on the Census of 2011 due to an amendment in the J&K Reorganisation Act.
- The latest delimitation in other parts of India has been done as per the census of 2001. The future delimitation will be based on the census of 2031.
- The number of assembly seats in J&K after delimitation will increase from 107 to 114 that includes 24 seats for Pakistan-occupied Kashmir.
- The J&K Assembly was dissolved in November 2018 after being in suspended animation for six months.
- The last delimitation of J&K was done in 1995 when the former state was under the President's Rule.

IOA FORMS ANNUAL GRANT AND AFFILIATION COMMITTEE

◎ CONTEXT:

- The Indian Olympic Association constituted an 11-member committee led by Athletics Federation of India president Adille Sumariwala to monitor annual grant and affiliation fee of its members for the 2020-2021 cycle.

What is Indian Olympic Association?

- The Indian Olympic Association is the governing body for the Olympic Movement and the Commonwealth Games in India.
- As an affiliated member of the International Olympic Committee (IOC), Commonwealth Games Federation (CGF), Olympic Council of Asia (OCA) and Association of National Olympic Committees (ANOC), the IOA administers various aspects of sports governance and athletes' welfare in the country.
- In this regard, the IOA oversees the representation of athletes or teams participating in the Olympic Games, Commonwealth Games, Asian Games and other international multi-sport competitions of IOC, CGF, OCA and ANOC.
- The Indian Olympic Association is recognised by the Ministry of Youth Affairs and Sports.

Foundation:

- The IOA was established in the year 1927 with Sir Dorabji Tata and Dr. A.G. Noehren as the Founding President and Secretary General respectively.
- It is registered as a Non-Profit Organisation under the Societies Registration Act of 1860.

- As member of the IOC and OCA, it is the Indian Olympic Association's primary mission to develop, promote and protect the Olympic Movement in the country.
- Beyond the participation in the Games, the IOA has also established various initiatives with different stakeholders for the development of sports education and Olympic studies.

How IOA is governed?

- The Indian Olympic Association is currently governed by a 32-member Executive Council, headed by President, Dr. Narinder Dhruv Batra.
- The election for the Executive Council is held once in every 4 years. The last election of the IOA was held on 14th December 2017.
- The working of the Executive Council is also assisted by different Standing Committees of the IOA that are constituted with experts in the subject-field to help in various aspects of governance.
- Together with the Executive Council Members, Standing Committees and the Office, the IOA administers Olympic movement in India.

The Committee:

- Besides Sumariwala, the panel includes D R Saini, Vagish Pathak, S M Hashmi, Sekhar Chandra Biswas, Vithal Shrigaonkar, M. P. Singh, D V Seetharama Rao, Abu Mehta, Madhukant Pathak and B K Roka.
- The committee will review and monitor issues concerning the disbursement of IOA's annual grant to its members in coordination with the finance department.

A NTARCTIC IMPULSIVE TRANSIENT ANTENNA

◎ CONTEXT:

- In a significant breakthrough, a team of researchers have succeeded in finding "a fountain of high-energy particles erupting from the ice" in Antarctica which according to the researchers could be proof of a parallel universe. The event was recorded by NASA's ANITA.

What is ANtarctic Impulsive Transient Antenna or ANITA?

- Designed by world's premier space agency NASA, the ANITA instrument is a radio telescope which is used to detect ultra-high energy cosmic-ray neutrinos from a scientific balloon flying over Antarctica.
- ANITA, a stratospheric balloon payload flying over the Antarctic, is the first NASA observatory for neutrinos of any kind.
- ANITA has made four flights
- **ANITA-I** was launched from McMurdo, Antarctica in 2006
- **ANITA-II**, a modified instrument with 40 antennas, was launched from McMurdo Station in 2008.
- **ANITA-III**, which was equipped with systems to improve sensitivity by a factor of 5–10, was launched in December 2014.
- **ANITA-IV** was launched in December 2016 and it was loaded with tunable notch filters and an improved trigger system

The findings:

- ANITA succeeded in detecting the 'fountain' of high-energy particles in 2006 and 2014 but the researchers initially thought them as background noise or glitches.

- An array of radio antennas attached to the balloon flew over the frigid continent at an altitude of about 121,000 feet — almost four times as high as a commercial flight — and detected high-energy particles, known as neutrinos, which constantly bombard our planet.
- Low-energy, subatomic neutrinos can pass completely through Earth, but higher-energy objects are stopped by solid matter, which means that the high-energy particles can only be detected coming “down” from space.
- But the team’s ANITA detected heavier particles, so-called tau neutrinos, which come “up” out of the Earth, implying that these particles are actually traveling backward in time, suggesting evidence of a parallel universe.

What are neutrinos?

- Neutrinos are high-energy particles that pose no threat to us and pass through most solid objects without anyone even noticing.
- Neutrinos constantly bombard Earth and as per some estimates emerging from studies, 100 trillion neutrinos pass through your body every second!
- Rarely do they interact with matter. But if they do smash into an atom, they produce a shower of secondary particles we can detect, which allows us to probe where they came from in the universe.
- ANITA detects neutrinos pinging in from space and colliding with matter in the Antarctic ice sheet.

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MISCELLANEOUS

CURRENT AFFAIRS

CHARRU MUSSEL

- Charru mussel is spreading quickly in the backwaters of Kerala, elbowing out other mussel and clam species and threatening the livelihoods of fishermen engaged in molluscan fisheries.
- The rapid spread of the Charru mussel may have been triggered by Cyclone Ockhi which struck the region in 2017.

What is Charru mussel?

- Charru mussel (*Mytella strigata*) is an invasive mussel native to the South and Central American coasts.
- Externally, the Charru mussel resembles the green and brown mussels (kallummekka in Malayalam), but is much smaller in size.
- Its colour varies from black to brown, purple or dark green.
- The short-necked clam fisheries in the lake had obtained an eco label from the Marine Stewardship Council and about 3,000 people are dependent on fisheries here.
- In such a scenario, the fast-breeding Charru mussel could be seen as a 'pest'.

CHARDHAM TUNNEL

- The Border Roads Organisation (BRO) has achieved a major milestone in the construction of a 440-m tunnel below the densely populated Chamhat town on the Rishikesh-Dharasu road (NH 94) in Uttarakhand.
- The achievement is part of efforts to boost the annual Chardham yatra.
- Under the Chardham project costing about Rs.12,000 crore, the BRO is constructing 250 km of the national highways leading to the holy shrines of Gangotri and Badrinath.
- Five projects are slated for completion by October 2020.

DEHING PATKAI WILDLIFE SANCTUARY

- Amid the controversy regarding coal mining inside Dehing Patkai wildlife sanctuary, the state forest department has said that no final approval has been accorded for the mining.

About the Sanctuary:

- The **Dehing Patkai Wildlife Sanctuary**, also known as the Jeypore Rainforest is a part of Dehing Patkai Elephant Reserve.
- It is located in the districts of Dibrugarh and Tinsukia.
- Dehing Patkai is a deciduous rainforest interspersed with semi-evergreen and lush green flora, the only patch of virgin rainforest in Assam.
- It comprises of Jeypore, Upper Dehing and Dirok.

GLENMARK TO CONDUCT 'FAITH' TRIALS

- With the number of COVID-19 patients rising in India, Glenmark Pharmaceuticals Ltd., has announced a new randomised, open-label study to test the combined efficacy of two antiviral drugs — Favipiravir and Umifenovir — as a potential COVID-19 treatment strategy.
- The two antiviral drugs have different mechanisms of action, and their combination may demonstrate improved treatment efficacy by effectively tackling high viral loads in patients during early stages of the disease.

- The new combination clinical trial will be called FAITH – (FA vipiravir plus Um I fenovir (efficacy and safety) Trial in Indian Hospital setting).

GRAND ETHIOPIAN RENAISSANCE DAM (GERD)

- The Grand Ethiopian Renaissance Dam (GERD), formerly known as the Millennium Dam, is under construction in the Benishangul-Gumuz region of Ethiopia, on the Blue Nile River, which is located about 40km east of Sudan.
 - The Nile Basin river system flows through 11 countries. The Blue Nile and White Nile merge in Sudan before flowing into Egypt and towards the Mediterranean.
 - Egypt currently bases its share of the river's waters on a 1959 deal that gave it 55.5 billion cubic meters water annually, and Sudan 18.5 bcm.
- The project is owned by Ethiopian Electric Power Corporation (EEPCO).
- Construction of the Grand Renaissance Dam started in April 2011.
- The reservoir and dam will offer major benefits to Ethiopia, Egypt and Sudan.
- The contentious issue around the GERD, Africa's biggest hydropower project, concerns control of the flow of water in the world's longest river among the riparian states.

Egypt has for a long time held the major ownership of the water from the Nile River and prevented Ethiopia from constructing a dam. Egypt depends on the Nile for 90% of its water needs.

MIZORAM GRANTS 'INDUSTRY' STATUS TO SPORTS

- The northeastern state of Mizoram has accorded 'industry' status to sports to further bolster the sports activities, by attracting investment.
- Mizoram is known for its love for sports — especially football which is played competitively through the Mizoram Premier League, the state's highest football league.
- At least 100 Mizo players are part of the Indian Super League, one of the top premier football leagues in India.
- Besides football, hockey, wrestling, there are a number of indigenous games such as, stick fighting, Insuknawra (rod pushing), Kalchhet kal (relay race using bamboo), Inarpathai (cock fighting) in Mizoram.

MOLECULAR SHOCK ABSORBERS BUFFER AXONAL TENSION OF NERVE CELLS

- Scientists have found out that spectrin, which are flexible rod-shaped molecules present in axons, act as 'shock absorbers' to protect axons from stretch-induced damage.

What are Axons?

- Axons are long tubular extensions of nerve cells that transmit electrical signals across long distances and can be up to a meter long in the case of humans.
- At such lengths, they are subjected to large stretch deformations during limb or other bodily movements.
- Axons in the brain too undergo significant deformations, even during normal activities like jumping (the human brain is as soft and wobbly as edible jelly).

Key-findings of the probe:

Probing into what special strategies axons adopt to protect themselves from damage during such stretch deformations, the scientists zeroed in on the molecule spectrin, a cytoskeletal protein.

- The neuronal cells may have evolved a clever strategy using an etched optical fiber attached to a piezo drive as a force-sensing cantilever to stretch live axons and to measure the resultant tension.
- Piezo drives attached to optical fiber is used to stretch on axons where optical fiber acts as a force-sensing cantilever.
- The resulting tension measured along the axon comes from the axonal cytoskeleton (consisting of biopolymers), of which spectrin is a part.

This study will have significant implications to our understanding of concussion that result from head impacts as well as stretch-induced nerve injuries.

MONTENEGRO, FIRST EUROPEAN NATION TO BECOME CORONAVIRUS FREE

- Montenegro, a small Balkan country of some 600,000 people, has become the first country in Europe to declare itself Coronavirus free.
- One of Europe's smallest countries with a population of a little over 6 lakh, Montenegro is known for its rugged mountainscapes, glacial lakes and its buzzing beaches.
- The country reported 324 coronavirus cases and nine deaths in 68 days. There are currently no active cases of COVID-19 in the country.

How does a country certify it is free of Coronavirus?

- The WHO declares a country free of a virus when there hasn't been a confirmed case after twice the maximum incubation period, which is the time of first exposure to an infection and the onset of symptoms.
- In the case of COVID-19, the WHO has said the maximum incubation period is 14 days.

SOUTHERN REACHES OF WESTERN GHATS YIELD 3 NEW PLANT SPECIES

Scientists have discovered of three new plant species from the evergreen forest patches of the southern end of the Western Ghats in Kerala and Tamil Nadu.

The three new species-

- *Eugenia sphaerocarpa* of the Myrtaceae or Rose apple family
- *Goniothalamus sericeus* of the Annonaceae family of custard apple
- *Memecylon nervosum* of the Melastomataceae (Kayambo or Kaasavu in local parlance) family

SOLAR MINIMUM

- Sun has a cycle that lasts on average 11 years, and right now we are at the peak of that cycle.
- Every 11 years or so, sunspots fade away, bringing a period of relative calm. This is called the **solar minimum**. And it's a regular part of the sunspot cycle.
- While intense activity such as sunspots and solar flares subside during solar minimum, that doesn't mean the sun becomes dull.
- Solar activity simply changes form.
- The solar cycle is based on the **Sun's magnetic field**, which flips around every 11 years, with its north and south magnetic poles switching places.

- It's not known what drives these cycles - recent research suggests it has to do with an **11.07-year planetary alignment** - but the poles switch when the magnetic field is at its weakest, also known as solar minimum.
- Because the Sun's magnetic field controls solar activity - sunspots, coronal mass ejections and solar flares - the cycle is detectable as that activity changes.
- During solar minimum, there are, well, minimal sunspots and flares. This gradually changes as the Sun ramps up to solar maximum.
- The magnetic field grows stronger, and sunspot and flare activity increases, before subsiding again for the next solar minimum.

THE INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY

- International Day For Biological Diversity is an annual event that takes place on May 22.
- It is an initiative taken by the United Nations to protect the earth and the variety of lives on it.
- International Day For Biological Diversity aims at raising awareness about the unprecedented environmental crisis that the world is facing and how to protect the biodiversity on earth.
- By biodiversity, we mean the variety of species on earth. It includes both flora and fauna.
- The theme for International Day For Biological Diversity 2020 is "Our solutions are in nature."

UTTAR PRADESH TO DEVELOP 800 KM OF HERBAL BELT

- In a significant decision to boost herbal and medicinal plants cultivation in the country, the Uttar Pradesh government has decided to develop 800-km network roads in the state as a 'Herbal belt' by planting medicinal and herbal trees along both sides of the road.
- The state government will plant trees like Peepal, Neem, Sahjan along with other herb varieties like Brahmi, Ashwagandha and Jatropa to promote herbal and medicinal plant cultivation.

Significance of the initiative:

- Planting of samplings will provide raw material for the medicines and will also help in curbing the erosion of land.
- This scheme will help both the development and beautification of the area and bring medicinal benefits along with promoting biodiversity.



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