

CURRENT AFFAIRS

WEEKLY

WEEK - 2
MARCH, 2020

MAINS

India's nomination for 2020
World Heritage List
CULTURE

Black carbon deposits on
Himalayan glaciers
Bundling scheme for
Renewable Energy
Heat Waves

How India can be an opportunity
for cheetah, and why it will
take time?

Sukhna Lake becomes a
'living entity'
ENVIRONMENT & ECOLOGY

SC Struck Down Ban on
Crypto-currencies
GOVERNANCE

Meghalaya is demanding Inner
Permit Line
INDIAN POLITY

Agreement for Bringing Peace to
Afghanistan
INTERNATIONAL RELATIONS

ECI Not in favour of State
Funding of Elections
How the Centre's planned
Sanskrit universities will
function?

Medical Equipment Notified
as 'Drugs'

Promoting Tribals of India
Suspension of MP from
Lok Sabha

POLITY & GOVERNANCE

Rare Diseases Day
Scientists discover animal
that doesn't breathe oxygen
SCIENCE & TECHNOLOGY

Various Military Exercises
SECURITY

"Ekam Fest" to Promote
Craftsmanship & Products
of Divyang Artisans and
Entrepreneurs
SOCIAL ISSUES

What's next for Virtual Currency?

ECONOMY

COSTAL EROSION - AN ANALYSIS

Looming WATER CRISIS in India

ENVIRONMENT

Death Penalty for Rape Cases

SC ruling on Criminalisation of
Politics

Sedition Cases in India

POLITY & GOVERNANCE

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- 2 (MARCH, 2020)

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IES, Former Adviser - NITI Aayog

K.D. Singh

IFoS,
Former Principal Conservator of Forests - Arunachal Pradesh

Dr. N.K. Sahu

IES, Former Joint Secretary - HRD Ministry

Devi Prasad

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IPS (Retd.)

H. Bhusan

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- and many other Senior Civil Servants and Academicians who will part of the board...

HIGHLIGHTS

-  Question on Debatable Topic for Self-paced Preparation
-  Analysis of Controversial Topics & Tips to handle
-  DAF Analysis
-  1 Mock Interview
-  Mock Feedback
-  Video Recording

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SECTION: A
(MAINS)

CURRENT AFFAIRS

WHAT'S NEXT FOR VIRTUAL CURRENCY?

CONTEXT

- The Supreme Court set aside a ban by the Reserve Bank of India (RBI) on banks and financial institutions from dealing with virtual currency holders and exchanges.

◎ BACKGROUND:

- The Supreme Court held that the ban by the RBI on the banks and financial institutions from dealing with virtual currency holders exchanges did not pass the "proportionality" test.
- The test of proportionality of any action by the government must pass the test of **Article 19(1)(g)**, which states that all citizens of the country will have the right to practise any profession or carry on any occupation or trade and business.
- In 2018, the RBI had banned banks from dealing with virtual currency exchanges and individual holders because these currencies had no underlying fiat and that it was necessary for the larger public interest to stop banks from providing any services related to these.

◎ ANALYSIS:

What are virtual currencies? Are they different from cryptocurrencies?

- There is no globally accepted definition of what exactly is a virtual currency.
- Some agencies have called it a method of exchange of value; others have labelled it a goods item, product or commodity.
- Satoshi Nakamoto, widely regarded as the founder of the modern virtual currency bitcoin and the underlying technology called blockchain, defined bitcoins as "a new electronic cash system that's fully peer-to-peer, with no trusted third party".
- This essentially meant there would be no central regulator for virtual currencies as they would be placed in a globally visible ledger, accessible to all the users of the technology.
- All users of such virtual currencies would be able to see and keep track of the transactions taking place.
- Virtual currency is the larger umbrella term for all forms of non-fiat currency being traded online.
- Virtual currencies are mostly created, distributed and accepted in local virtual networks.
- Cryptocurrencies, on the other hand, have an extra layer of security, in the form of encryption algorithms.

- Cryptographic methods are used to make the currency as well as the network on which they are being traded, secure.
- Most cryptocurrencies now operate on the blockchain or distributed ledger technology, which allows everyone on the network to keep track of the transactions occurring globally.

Are cryptocurrencies dangerous?

- Organisations across the globe have called for caution while dealing with virtual currencies, while also warning that a blanket ban of any sort could push the entire system underground, which in turn would mean no regulation.
- In 2013, the RBI had for the first time warned users, holders and traders of virtual currencies about the potential financial, operational, and legal and customer protection and security-related risks that they were exposing themselves to.
- The following year, the Financial Action Task Force came out with a report that highlighted both legitimate uses and potential risks associated with virtual currencies.
- In a different report, it again said the use of such virtual currencies was growing among terror financing groups.

Why did the RBI ban virtual currencies?

- Owing to the lack of any underlying fiat, episodes of excessive volatility in their value, and their anonymous nature which goes against global money-laundering rules, the RBI initially flagged its concerns on trade and use of the currency.
- Risks and concerns about data security and consumer protection on the one hand, and far-reaching potential impact on the effectiveness of monetary policy itself on the other hand, also had the RBI worried about virtual currencies.
- In its arguments in the Supreme Court, the RBI said it did not want these virtual currencies spreading like a contagion, and had, therefore, in the larger public interest, asked banks not to deal with people or exchanges dealing in these non-fiat currencies.
- The RBI argued that owing to a "significant spurt in the valuation of many virtual currencies and rapid growth in initial coin offerings", virtual currencies were not safe for use.

What did the petitioners say?

- The petitioners, who included virtual currency exchanges operating in the country, told the Supreme Court that the RBI action was outside its purview as the non-fiat currency was not a currency as such.
- They also argued that the action was too harsh and there had been no studies conducted either by the RBI or by the central government.
- Arguing that the ban was solely on "moral grounds", the petitioners said the RBI should have adopted a wait-and-watch approach, as taken by other regulators such as the Directorate of Enforcement or the Securities and Exchange Board of India.

What did the Supreme Court rule?

- The Supreme Court held that the RBI directive came up short on the five-prong test to check proportionality
 - ▶ Direct and immediate impact upon fundamental rights
 - ▶ The larger public interest sought to be ensured
 - ▶ Necessity to restrict citizens' freedom
 - ▶ Inherent pernicious nature of the act prohibited or its capacity or tendency to be harmful to the general public
 - ▶ The possibility of achieving the same object by imposing a less drastic restraint.

- The court did not agree, however, with any other submission made by the petitioners. The petitioners had submitted that the acceptance of Distributed Ledger Technology, or blockchain, and the rejection of virtual currencies by the RBI as well as the government, is a "contradiction" in terms.
- Apart from domestic agencies, the RBI could not be faulted for not adopting a "light-touch" approach as adopted by other countries.
- There could be no comparison with other countries such as the US, the UK, Japan, or Singapore as they were developed economies.

What happens now?

- The Supreme Court's judgment could lead to the RBI rethinking its policies surrounding virtual currencies.
- RBI will reconsider its approach to cryptocurrency and come up with a new, calibrated framework or regulation that deals with the reality of these technological advancements.
- Decision will help those investors who had used legitimate money through banking channels.
- Other experts said that although the RBI's reasons for prohibition could have been right, it was never going to be successful as operations had predictably gone underground.

COASTAL EROSION – AN ANALYSIS

CONTEXT

- Recently, a study report published in scientific Journal Nature Climate Change says that climate change poses an existential threat to the world's sandy beaches.

◎ BACKGROUND:

- Coastal erosion is the wearing away of land and removal of beach sediments by high winds, drainage, wave action, wave currents, and tidal currents. Coastal morphodynamics studies the erosion and sediment redistribution in coastal areas. It is caused by corrosion, hydraulic action or abrasion.
- Coastal erosion can be either a:
 - ▶ rapid-onset hazard (occurs very quickly, a period of days to weeks)
 - ▶ slow-onset hazard (occurring over many years, or decades to centuries).
- The beaches and shorelines in India serve multidimensional needs such as seaport for maritime commerce, space for residential & commercial structures, recreational purposes etc.
- Developmental activities along the coastline have increased and the trend is expected to continue in the decades to come. Similar to any other maritime country, India's long peninsular region constantly battles erosion.
- The developmental activities are often carried out without a clear understanding of the coastal dynamics. This leads to a long term, in the worst cases, permanent damage particularly to the local communities.
- According to the Ministry of Environment, Forest and Climate Change (MOEFCC) 40% of India's coastline is subjected to high, medium or low coastal erosion.

◎ ANALYSIS

What is the need for prevention of Coastal Erosion?

- The coastal regions where land and water meet are ecologically dynamic and sensitive regions, as marine and coastal ecosystems continuously impact on each other.
- These regions have a rich ecosystem such as mangroves, water bodies, seaweeds coral reefs, fisheries and other marine life, and other coastal and marine vegetation.
- These ecosystems protect the region from saline winds, cyclones, tsunami waves etc., promote

carbon sequestration and promote biodiversity as well as provide raw materials for a number of manufacturing activities. Hence, this is an alarming situation for us to overcome from the coastal erosion.

Causes of Coastal Erosion

- Wave energy** is considered to be the primary reason for coastal erosion.
- Natural hazards** like cyclones, thermal expansion of seawater, storm surges, tsunami etc due to the melting of continental glaciers and ice sheets as a result of climate change hamper the natural rhythm and precipitate erosion.
- Strong littoral drift** resulting in sand movement can also be considered as one of the major reasons for coastal erosion.
- Dredging, sand mining and coral mining** have contributed to coastal erosion causing sediment deficit, modification of water depth leading to longshore drift and altered wave refraction.
- Coastal erosion has been sparked by fishing harbours and dams constructed in the catchment area of rivers and ports reducing the flow of sediments from river estuaries.
- Heavy rainfall** can enhance the saturation of soils, with high saturation leading to a reduction in the soil's shear strength, and a corresponding increase in the chance of slope failure (landslides).

Status of Coastal Erosion in India

- The Ministry of Earth Sciences that monitors shoreline changes along the Indian coast states that:
 - ▶ About 89% of the shoreline of Andaman and Nicobar Island is eroded by the Bay of Bengal.
 - ▶ Goa has the highest percentage of stable shoreline.

World Coastal Erosion

- A study report published in scientific **Journal Nature Climate Change** says that Climate change poses an existential threat to the world's sandy beaches and that as many as half of them could disappear by the end of the century.
 - It states that even by 2050 some coastlines could be unrecognizable from what we see today, with 14% to 15% facing severe erosion.
- With 62% of its coast gaining land, Tamil Nadu has gained the newest shoreline.
 - **Example:**
 - ▶ A major portion of the beach between Someshwara Rudrapade and Uchila looked as if it had been washed away.
 - ▶ Hundreds of people living in coastal Kerala at Aliyarpalli, Marakkadavu, Muringazhi, Puthuponnani, Azhikkal, Veliyankode, Thannithura, Palappetty and Kappirikkad evacuated their houses following the threat of sea erosion.
 - Length of the coastline of India including the coastlines of Andaman and Nicobar Islands in the Bay of Bengal and Lakshadweep Islands in the Arabian Sea is 7517 km.
 - Length of Coastline of Indian mainland is 6100 km which is surrounded by the Arabian Sea in the west, Bay of Bengal in the east, and the Indian Ocean in the south.
 - The long coastline of India is dotted with several major ports such as Kandla, Mumbai, Navasheva, Mangalore, Cochin, Chennai, Tuticorin, Vishakapatnam, and Paradip.

Why did the Eastern coast see more erosion than the Western coast?

- The eastern coast of India saw more soil erosion than the western coast as the Bay of Bengal sees rougher waters than the Arabian Sea.
- The eastern coast sees a lot of rain which keeps the seas rough through most of the year.
- Besides the Southwest Monsoon (June to September), the eastern coast also witnesses the Northeast Monsoon from October to December and brings rain to coastal Andhra Pradesh and Tamil Nadu.
- The eastern coast underwent more erosion due to frequent cyclonic activities from the Bay of Bengal in the past three decades, compared to the western coast, which remained largely stable.

Impact of coastal erosion:**◦ Immediate Effects**

- ▶ Removal of small islands.
- ▶ Loss of beach sediments.
- ▶ Destruction of existing habitats of shore flora and fauna.
- ▶ Weakening and destruction of sea walls, revetments, bulkheads and other coastal defences.
- ▶ Loss of agricultural land.
- ▶ Deposition of sediment on productive lands.
- ▶ Damage and destruction of jetties.
- ▶ Damage and destruction of boat-launching facilities, septic tanks, water tanks, and building foundations.
- ▶ Disruption of communications caused by the collapse of seafront, bridge, road, and railway foundations.

Secondary Effects

- Loss of income for those who are dependent on coastal areas.
- Reduction of protection against future storms.
- Creation of unstable cliff slopes.
- Pollution of beaches caused by broken sewer lines.
- Silting and invasion of saline water behind breached defences.
- Flooding of land areas behind breached defences.
- Scarcity of drinking water

Control Methods**◦ Hard-erosion controls**

- ▶ Hard-erosion control methods provide a more permanent solution than soft-erosion control methods.
- ▶ Seawalls and groynes serve as semi-permanent infrastructure. These structures are not immune from normal wear-and-tear and will have to be refurbished or rebuilt. It is estimated the average life span of a seawall is 50–100 years and the average for a groyne is 30–40 years. Because of their relative permanence, it is assumed that these structures can be a final solution to erosion.

◦ Soft-erosion controls

- ▶ Soft erosion strategies refer to temporary options of slowing the effects of erosion. These options, including Sandbag and beach nourishment, are not intended to be long term solutions or permanent solutions.

- Another method, beach scraping or beach bulldozing allows for the creation of an artificial dune in front of a building or as a means of preserving a building foundation.
- ◉ **Relocation**
 - Relocation of infrastructure or housing farther away from the coast is also called a managed retreat. The natural processes of both absolute and relative sea-level rise and erosion are considered in rebuilding.
- ◉ **Improving vegetation along the coastline**, which is important for improving slope stability and providing shoreline protection.
- ◉ **Using Geosynthetic tubes** that are being used along the coast in Odisha.

- ◉ Building out into the sea, low walls or barriers called **groynes** to check drifting.
- ◉ Making use of indigenous knowledge of local communities before decision making concerning developmental projects along the coastline.

◎ CONCLUSION

National Centre for Coastal Research (NCCR) has found that nearly one-third of the country's coastline is severely eroded. We continue to lose more of our coastal areas to climate change. The government and the people must make use of the traditional knowledge in addition to the scientific methods to mitigate the impacts of climate change on our coastal areas.

LOOMING WATER CRISIS IN INDIA

CONTEXT

- According to the World Resources Institute's (WRI) Aqueduct Water Risk Atlas, India is among the 17 countries, facing "extremely high" water stress. It has more than three times the population of the other 16 countries in this category combined.

◎ BACKGROUND:

- WRI report:** WRI's Aqueduct list ranked **water stress, drought risk, and riverine flood risk** across 189 countries and their sub-national regions, like states and provinces.
 - In the **17 countries** facing extremely high water stress, **agriculture, industry, and municipalities** are drinking up **80 per cent of available surface and groundwater** in an average year.
 - India ranked 13** on Aqueduct's list of "extremely high" water-stressed countries, close to "Day Zero" conditions when the taps run dry.
 - Northern India** faces severe **groundwater depletion**.
- NSS 76th round:** The 76th round of NSS data shows that **78.6% households** in the country do **not have access to piped water** in their house. In rural areas, **only 11.3%** households have access to piped water. **Hand-pumps are the main source** of drinking water for **43% of rural households**.
 - 42% of** people in rural areas have to **venture outside** of their house every day—from 0.2 km to 1.5 km—to **fetch drinking water**. This figure is **19% in urban areas**.
 - About **73% rural** household and **51% of urban** households **never treat the water** before drinking.
- Composite Water Management Index (CWMI):** CWMI 2019 developed by NITI Aayog reports that **16 out of 27** states still **score less than 50 points on the index**, out of 100. They account for 48% of the population, 40% of agricultural produce and 35% of the economic output of India.
 - NITI Aayog has declared that 21 cities, including **Delhi, Chennai and Bengaluru**, are expected to **run out of groundwater by 2020**.
- The water crisis in India:** India's water **demand may exceed supply two times by 2030**. The average all-India per capita water availability is expected to be 1,341 cubic metres by 2025, and touch a **low of 1,140 cubic metres by 2050**, close to the official water scarcity threshold.

- India has only **4% of the world's water** and has to provide for **16% of the world's population**.

- Water crisis around the world:** Two-thirds of the global population live under water-stressed conditions, and **by 2025, about 1.8 billion people** are expected to face absolute water scarcity.

◎ ANALYSIS:

Water crisis in India – Reasons

- High population pressure:** The burden of **activities of mankind** has exceeded the tolerance power of nature and therefore, India—which has been blessed with water resources—might soon turn into a water-scarce country.
- Removal of green cover:** Most of the Indian riverine system is rain-fed, and due to large-scale removal of green cover, the **retention capacity has decreased** tremendously.
 - This has led to run-off of a major part of precipitation, **leading to flash floods** in many parts of the country.
- Groundwater exploitation:** According to UNESCO, India is the **largest extractor** of groundwater; it extracts nearly **25% of the world's groundwater**. Currently, India is extracting **62% of groundwater** from its active recharge zone, of which almost **90% is for irrigation** purposes. We have regions where water exploitation is **more than 200%**.
 - India's **water table is falling** at a rate of 0.3 m per year. The water level in at least half the wells is falling.
 - Moreover, India suffers from **geogenic pollution** (elements naturally present in the geology) of **arsenic, fluoride, iron and nitrate**.
- Reasons for groundwater exploitation:** The main reasons behind over-extraction of groundwater is over-reliance of citizens on groundwater due to **(i) lack of storage capacity** of water, **(ii) poorly defined legal framework** of groundwater that rests ownership of groundwater with landowners, **(iii) lower pricing of urban water**. These have resulted in **groundwater mining** in Indian cities.

- ▶ **Low per capita storage capacity:** The per-capita water storage capacity of India is near 225 cubic metres, **far below China**, which has a storage capacity of 1,111 cubic metres per capita.
 - ▶ **Unplanned growth:** Most cities in India have seen unplanned growth, whereas master plans are mostly superimposed **without any future resource considerations**.
 - ▶ **No provisions for rainwater harvesting:** Lack of provisions for rainwater harvesting and water conservation structures in city plans have led to an overemphasis on groundwater in many cities.
 - **Mismanagement of water in agriculture:** Although water crisis is now a worldwide phenomenon, it is much worse in India due to mismanagement of water usage in agricultural operations.
 - ▶ **High water consumption in agriculture:** In India, agriculture **consumes nearly 80%** (65% in China) of freshwater and the rest 20% is used for drinking and other household activities.
 - ▶ **Low agricultural output for each litre of freshwater:** World Bank statistics show that while India produced **\$0.5** of agricultural GDP (in 2010) for a litre of fresh water, this figure is **\$1.6 for China** (in 2012) and **\$3.9 for Israel** (in 2004).
 - ▶ There has been **no increase in agricultural output per unit of water usage** in our country during the last three decades.
 - **Bad agricultural policies:** Four crops (**rice, wheat, cotton, and sugarcane**), accounting for just 46% of the country's gross cropped area, take up **65% of the gross irrigated area** and consume **70% of all the water** used in agriculture.
 - ▶ **Skewed public procurement:** Due to public procurement focus on just two/three states, **paddy is grown on all of Punjab's irrigated area** despite the state's low irrigation water productivity (IWP) of 19 kg/lakh litre for the crop, while in high IWP states like **Assam** (51 kg/lakh litre) and **Odisha** (30 kg/lakh litre), paddy accounts for **just 11% and 35% of the gross irrigated area**.
 - ▶ **Excess buffer stock:** In 2019, FCI's actual stock exceeded the buffer stock requirement by 36.4 million tonnes.
 - ▶ **Agricultural subsidy burden:** Free power to farmers not only leads to excessive withdrawal of groundwater but also **increases soil salinity**, which jeopardises farm sustainability.
 - ▶ **Exports water:** India's agri-trade growth has also meant that it **exports four times as much embedded water as it imports**, while China exports just a tenth of what it imports.
 - **Climate change:** Climate crises and global warming are only **deepening the water-stress**. It impacts the availability of fresh water.
 - **Spatial and temporal variation in precipitation:** India does not have a problem of water scarcity; it suffers more from variation in the scale of time and location of precipitation.
 - ▶ The opportunity lies in **managing and supplementing water resources** through natural and artificial recharge.
- ### Consequences of the water crisis
- **Conflict and migration:** Water, as we know, has been the bone of contention between **India and Pakistan regarding Indus water distribution, between different state governments** in India, and similarly, among other nations around the world.
 - ▶ **WRI's 12 of the 17** countries facing "extremely high" stress lie in the **Middle East and North Africa (MENA) region**, where water scarcity can exacerbate conflict and migration.
 - ▶ Example from India include; **Krishna Water Dispute** between Maharashtra, Karnataka, Telangana and Andhra Pradesh
 - **Consequence of intensive groundwater exploitation:** If continuous extraction of groundwater exceeds the total replenishable rate, it leads to **land subsidence, saltwater intrusion**, and becomes technically and financially **non-feasible for stable water supply**.
 - ▶ Over-utilisation of groundwater has a cascading effect on water quality, creating a higher concentration of **arsenic, fluoride, iron and nitrate** in groundwater reservoir.
 - **Decreased retention capacity:** Due to decreased retention capacity, the **natural capacity of groundwater recharge has reduced**. Decreased natural groundwater recharge capacity, coupled with overexploitation of groundwater, has led to a **decrease in base flow** (part of groundwater that flows into the river) to rivers in the non-monsoon period.
 - ▶ A decreased base flow causes many **rivers to either run with the decreased flow or run dry**.
 - **Flash floods:** Flash flooding occurs when it rains rapidly on saturated soil or dry soil that has **poor absorption ability**. Examples of a flash flood in India include those in Uttarakhand (2013), Srinagar (2014), and the regular **flood situation in Mumbai**.

- Many Indian cities like **Chennai, Shimla, Bengaluru etc.** face severe water scarcity.
- The situation will become worse when the population growth rate of these cities is taken into account.
- ◉ **Decreased food supply:** Water and food production are directly related. Decreased availability of water or even flash floods, adversely affects agricultural production. This can reduce agricultural production/availability per capita, resulting in a **food price increase**, and overall inflation.
- **Farmer suicides:** This has an adverse consequence on farmers, who suffer **income loss** and undergo other socio-economic consequences.
- ◉ **Can hamper economic growth:** Low availability of water can be dangerous for the holistic growth of India's economy.
- A study in Latin America revealed that investing **USD 1 billion in expanding water** supply and sanitation network can directly result in **1 lakh jobs**.

Solutions to the water crisis

- ◉ **Buffer out spatial and temporal variation in precipitation:** Rainwater harvesting, coupled with an increased green cover, is the ideal solution for the current water crisis in India because it can buffer out the spatial and temporal variation in precipitation.
 - Utilisation and preservation of **green cover**.
 - River/excess water sharing across time and space.
- ◉ **Rainwater harvesting:** Rainwater harvesting not only helps in replenishing groundwater for **future use** but also provides water for **local use without transfer costs**—this has social and environmental benefits.
 - **Natural filtration** by the geology of Earth leads to a better quality of water.
 - Initiatives like rainwater harvesting, restoration and rejuvenation of **traditional water bodies, and community watershed development** are all essential and near-term solutions.
 - **Traditional temple tanks, village ponds and lakes** need to rejuvenate.
- ◉ **Artificial recharge of groundwater:** Artificial recharge is the process by which groundwater reservoir is augmented through **increased infiltration** using artificial structures.
 - **Indirect methods**, contact area and residence time of surface water over the soil are increased to augment groundwater, which can be achieved by either surface or subsurface techniques.
- **Surface techniques** include recharge **basins, percolation tanks, contour bunding, etc.**
- **Subsurface techniques** include **injection wells, gravity head recharge well, recharge pits, recharge shafts**.
- **In the indirect method**, rather than the direct supply of water into aquifers, indirect methods like **induced recharge, bore blasting, hydro-fracturing** is used.
- ◉ **Reviving traditional water conservation/harvesting methods:** Constructing farm ponds, check dams, gully plugging, dug wells, borewells and artificial glaciers in **Ladakh**; Tamaswada Pattern nallah treatment in **Maharashtra**; soak pits in **Punjab**; and watershed development and management in **Maharashtra and Madhya Pradesh**.
- ◉ **Better agricultural practices:** **Agricultural universities** should take a lead in advising farmers on suitable **cropping patterns**, taking into account soil and other climatic conditions of a region, to save water.
 - Promote the use of **drip irrigation and sprinklers**.
 - **Checking farm subsidies:** The practice of providing free or subsidised water and power to farmers must be stopped. Small and marginal farmers can be compensated for their loss by increasing the MSP for their produce.
- ◉ **Pricing of water as a scarce commodity:** Government must encourage **saving in consumption** as well as rainwater harvesting through twin measures of pricing water on its economic cost and suitably **rewarding bulk users** (industry, farmers) through **discounted tariff** upon achieving measurable groundwater recharge.
- ◉ **Legal measures:** **Panchayats and municipalities** must be tasked with ensuring the integrity of boundaries of water bodies, and **penalised if encroachment** and misuse happen under their watch.
 - Impose suitable **penalties for wasting and polluting water**, and also limit per capita use of water and impose fines for exceeding the limit.
- ◉ **Adopting strict procedures for compliance and monitoring:** In urban areas, there is **water theft** and also loss of clean water due to **slackness on part of water management bodies**.
 - Inferior water service infrastructure and its poor maintenance must be checked.
- ◉ **New technology-based solutions:** Recycle sewage and other household wastewater by setting

up **water-treatment plants**, using innovative technologies. **Reuse the extracted water for irrigation.**

- ▶ Innovative financing techniques like, **development bonds and outcome-based financing** should be considered.
- **Data availability:** India can manage its water risk with the help of reliable and robust data pertaining to **rainfall, surface, and groundwater**, in order to develop strategies that strengthen resilience.
 - ▶ The government also needs to provide holistic data to ensure that **baselines and metrics around use, consumption and management** of water can be established.
- **Government policy support:** Budget 2020 presented a **16-point action plan** for the agricultural sector, which laid down comprehensive measures to address water shortage in 100 water-stressed districts in India.
 - ▶ **Increase in the budget of Jal Shakti Abhiyan** paves the way for a large-scale campaign focusing on conservation, rejuvenation and optimum utilisation of water.
 - ▶ **Earmarking of funds** from Union Budget 2021 (approximately Rs 11,500 crore) solely to **Jal Jeevan Mission** will help create a focus on water initiatives that are proposed.
 - ▶ Using programmes like **MGNREGA** for completing water storage projects in states.
 - ▶ As the water falls under the state list of the Constitution, **the participation of states** is crucial to deal with the water crisis.
- **Involving corporate India:** Government efforts alone may not bring down water-waste fast enough to avoid the looming crisis, hence, **PPP route** should be explored and corporate sector should be involved to play their part in resolving water crises.
 - ▶ **In-house consumption of corporates** with large industrial footprints needs to be controlled.

▶ Corporates should direct **CSR spends** to projects that ensure water availability to communities through initiatives like **water ATMs**.

- **Community ownership of resources:** Sustainability will be ensured if consumer communities feel the **urgency of conservation** and management of a resource that is a **collective need**.
 - ▶ **Involving multiple village communities:** Large-scale watershed development initiatives that bring together multiple village communities.
 - ▶ Building and investing in **check dams, contour trenches, stormwater run-offs, drainage, water distribution and rights, rationing philosophies, governance around pricing** should all be supported and communities should be trained to take on these responsibilities.
- **Public awareness programmes:** There is a need to generate awareness among common masses regarding the condition of water scarcity in the country.
 - ▶ Huge **sensitisation drives** must be conducted by organising **programmes/public meetings** on efficient use of water.

◎ CONCLUSION

If there is a challenge in this century for our country, it is water. To solve the problem of water scarcity in India, there is a need for an integrated approach that involves the effort of every stakeholder. It is time for collective action with a sense of utmost urgency. With vigilance and effort, becoming water-positive is doable.

DEATH PENALTY FOR RAPE CASES

CONTEXT

- The recently passed 'Disha Act' in Andhra Pradesh, enables the death penalty for rape and reduces judgement period to 21 working days. There is, in general, a widespread discussion on capital punishment involving sexual offences against women and children.

◎ BACKGROUND

- Andhra Pradesh Disha Act:** Two new laws have been passed by the Andhra Pradesh (AP) assembly; (i) **Special Courts for Specified Offences Act-2019**, (ii) **Criminal Law Andhra Pradesh Amendment Act-2019**.
 - The new laws, clubbed together as two-part "Andhra Pradesh Disha Act".
- Disha's case:** The Act has been so named as a tribute to the young Hyderabad veterinarian who was **horrifyingly burnt after being gang-raped**.
 - The victim was referred to as "**Disha**", as **Indian law forbids public identification of victims of sexual violence**.
 - In Disha's case, there was '**conclusive evidence**'. In (CCTV) videos accused can be seen approaching her and taking her aside.
 - The police had **first turned away the victim's family** when they went to complain.
 - The **police later shot the four accused** when they allegedly tried to escape the crime scene. They were there for a reconstruction of events.
- Objective:** The new Acts intend to provide **tougher punishment** and deliver justice to women and child victims of sexual assault, by providing for **quick trial and judgement**.
 - These tough legislations are **intended to act as a deterrent** for crimes against women and children.
- Special Courts for Specified Offences Act-2019:** Specified Offences against Women and Children Act, 2019, allows **exclusive special courts in each district** to address crimes against women and children. The state cabinet approved setting up of Special Courts in each of 13 districts.
- Changes made to CrPC and IPC:** In regard to Disha Act, **sections 39, 173, 309, 374, 376, 376D and 377** of CrPC were amended. Sections of **IPC were amended to include the death penalty** as the most severe punishment for rape cases.
 - New sections **345E, 354F and 354G** were inserted in IPC, dealing with, **online abuse, child sexual abuse and aggravated sexual assault on children**, respectively.

◎ ANALYSIS:

Andhra Pradesh Disha Act of 2019

- Death penalty in case of 'conclusive evidence':** There will be an **exclusive death penalty** for rape crimes where "adequate conclusive evidence" is available.
- Increased punishment for crimes against children:** For crimes against children, offenders can face **5 to 7 years** in jail and the term **can be extended to life** based on the severity of the crime under the Protection of Children from Sexual Offences (POCSO) Act.
- Punishment for online harassment:** Those found guilty of harassing women online through email, social media or any digital mode will be punished with imprisonment extending to **two years** on a first conviction, and **four years** on second and subsequent convictions.
- Reduced period for investigation and judgement:** The new laws give police **7 days** for investigation, and to judiciary **14 days** for trial.
- Reduced verdict period:** The trial has to be completed within 14 days, and the verdict has to be pronounced within **21 days**.
- Reduced disposal period:** Period allowed for disposal of appeal cases has been reduced to from six months to **three months**.
 - The appeal period has been cut to **45 days** from six months.
- Special courts:** These courts will take up cases of **rape, gang rape, acid attacks, stalking, voyeurism, sexual harassment**, and cases under the Protection of Children from Sexual Offences (POCSO) Act.
 - Judicial officers:** The State government shall nominate the Judicial officer and also appoint a **special public prosecutor**, preferably a woman, to conduct trials.
 - Special police team:** Government will constitute **District Special Police Teams** in all districts, headed by DSP for investigation of offences related to women and children.
 - Women & Children offenders registry:** Government will establish, operate and maintain a register of women and child

offenders in electronic form. This **registry will be made public** and will be available to law enforcement agencies.

Retributive justice

Retributive justice is a system of criminal justice based on the punishment of offenders rather than on rehabilitation. It is a theory of punishment that when an offender breaks the law, justice requires that he or she must suffer in return. It also requires that the response to a crime must be proportional to the committed offence.

Arguments in favour of Disha Act/death penalty

- **Justice delayed is justice denied:** Like in case of Nirbhaya, the **Nirbhaya Act** was brought soon after the incident in New Delhi; but today even after seven years, the guilty in the case have **not been handed over punishment**.
 - In case of delayed delivery of justice, the victims/victim's family feel that justice has been denied to them.
- **Strong deterrent:** There is a dire need for laws to be amended to create a stronger deterrent for crimes against women. **Implementation** of such laws **should be equally efficient**. It will create an environment against casual pursuance of heinous crimes against women.
- **Governmental obligation in case of 'conclusive evidence':** In cases where there is conclusive evidence against the accused; for example, the **CCTV videos in case of Disha**, the role of the government, police and judiciary becomes even more questionable.
 - Conclusive evidence cannot just be ignored by the government.
- **Crimes against women in India:** According to NCRB 2017 report, a total of 3.6 lakh cases of crimes against women were reported in 2017. This number has only increased and crimes against women are on the rise.
 - India has a terrible image for being **rape capital of the world**.

Criticism against Disha Act/Death penalty

- **Small window for investigation:** According to legal experts it is **difficult for the investigation** to be complete in seven days. In a system where **conviction rates are already poor**, a time-bound investigation can worsen things.
 - Such a rushed trial makes a **mockery of both; due process and idea of deliberative justice**.
- **Lack of adequate resources:** Currently the Indian justice system does not have requisite policing

and detective resources to finish the investigation in such a short frame of time.

- **Legally-sanctioned encounters:** Some critics have referred to the Act as a 'legally-sanctioned encounter' where suspects would be **sentenced to death without allowing enough time** to gather and assess the evidence at hand.
- **Guided by the bad reputation of the judiciary:** Given such a short frame for investigation of cases, the police **may not consider it necessary to process the cases to the judiciary** under the perception that legal institutions are ill-equipped to deal with such crimes.
- **Guided by public outcry:** Till date, there is no law in force in India that authorises the police to kill. The demand for instant killing of the accused from all corners creates a public opinion for the **abandonment of the rule of law**.
 - It may lead to situations when AP police shot the four accused in Disha case.
 - **Extra-judicial killing:** Plea of self-defence by police cannot be used to rationalise a targeted, premeditated killing of suspects in custody.
- **Retributive justice may not be the way:** Ascribing to retributive justice may not be the way to go in a democratic country like **India which has a historical legacy of resisting violence** in fundamentally non-retributive ways.
- **Salwa Judum case 2011:** The case laid a constitutional precept that no wielder of power can be allowed to claim the right to perpetuate the **state's violence against anyone**.
- **When the accused are powerful:** Many times the **police officials refrain from filing an FIR**, especially when the accused are socially/politically powerful. Victims can face **cross-examination about their past sexual histories**.
 - Powerful accused often attempt to quash charges or **shift the trial to a friendlier city**, making a mockery of fast-track cases.
 - 'Tough' criminal laws often **target weaker sections**.
- **Chances of murder/increased violence:** Once it is clear that death penalty is highly probable in rape cases, it may have opposite impact – instead of acting as a deterrent, it could lead to **perpetrators making sure the victims are left dead** or in no state to make a complaint or recognise the perpetrators.
 - It **hasn't yet been established** that the death penalty is a sufficient deterrent to sexual offences.
- **Reduced reporting:** In a large number of rape cases (**94.6% of cases in 2016**), the accused is **known to the victim**. Given that scenario – say

the accused is an uncle – having the threat of death penalty may make victims **less likely to report cases** of sexual violence, or even face increased pressure from their families to keep the matter to themselves.

- **Prefer adopting non-legal ways:** Stringent laws may not always be the answer to solving the issue at hand, in this case, crimes against women and children. Legal provisions can be **misused or not implemented at all**, and they do nothing to solve the root of the problem.
- ▶ The **mindset which leads to crimes against women** can hardly be addressed with stricter laws. There is a need for ground-level changes.
- ▶ **Justice Verma Committee** report acknowledged the same and recommended improving the status of women in non-legal ways.

NLU report on Death Sentence

- Recently, the fourth edition of '**The Death Penalty in India: Annual Statistics**' was published by **Project 39A of National Law University (NLU), Delhi**.
- **Increase in a number of death sentences relating to sexual offences:** The report states that a higher number of death sentences awarded in recent years relate to cases of sexual offences. In 2019, it was the highest in past four years.

- ▶ **Trial courts:** Percentage of sexual offences in death sentence cases increased from 41.35% in 2018 to 52.94% in 2019.
- ▶ **High Courts:** 65.38% of cases of confirmations of death sentences involved sexual offences along with murder.
- ▶ **Supreme Court:** In 2019, the SC dealt with 27 capital punishment cases, the highest number since 2001.

◎ CONCLUSION AND WAY FORWARD

Even though the Act is well-intentioned, it is unlikely to meet its intended purpose and could do more harm than good. Heinous crimes against women shaken the conscience of the nation. But speedy trials may not be all that is needed to resolve the issue. While it plays an important part delivering justice to the aggrieved party, a more socio-cultural approach may be needed to get to the root of the problem; like providing post-traumatic therapy to the aggrieved party, and creating an overall women-friendly environment at homes, workplace, judiciary and legislature. Finally, there is no doubt that the anguish or outrage of people in the aftermath of horrific crimes is justified. But there is a need to keep in sight of the rule of law and constitutional tenets.

SC RULING ON CRIMINALISATION OF POLITICS

CONTEXT

- The Supreme Court has ordered political parties to publish the entire criminal history of their candidates for Assembly and Lok Sabha elections along with the reasons that goaded them to field suspected criminals over decent people.

◎ BACKGROUND

- The information should be published in a local and a national newspaper as well as the parties' social media handles.
- It should mandatorily be published either within 48 hours of the selection of candidates or less than two weeks before the first date for filing of nominations, whichever is earlier.
- It ordered political parties to submit compliance reports with the Election Commission of India within 72 hours or risk contempt of court action.
- The judgment applies to parties both at the Central and State levels.
- The published information on the criminal antecedents of a candidate should be detailed and include the nature of the offences, charges framed against him, the court concerned and the case number.

◎ ANALYSIS:

Rationale behind the publishing of criminal records of the candidates

- **Increasing criminalization of politics in India:**
 - ▶ In 2004, 24% of the Members of Parliament had criminal cases pending against them; in 2009, that went up to 30%; in 2014 to 34%; and in 2019 as many as 43% of MPs had criminal cases pending against them.
 - ▶ Criminals often facing heinous charges like rape and murder, encroaching into the country's political and electoral scenes.
- **To ensure the accountability of political parties and enhance transparency.**
- **Right to know:** Lack of information about such criminalization among the citizenry hampers citizen's right to know and is a threat to the basic structure of the constitution.

Criticism

- Many political parties observed that the SC's decision is a step in the right direction. However, unless it is backed by a penal provision, it would be nothing but a cosmetic exercise. Instead,

according to them, the SC should have asked the centre to frame laws taking into consideration other aspects of political reforms such as putting a cap on expenditure incurred during elections by political parties, etc.

- Others have questioned the quantum of crime in the cases filed against political leaders, stressing that many of them were due to political rivalry, and that apex court transgressed boundaries.
- On the other hand, left parties lauded the larger cause of electoral reforms but called the SC judgment as impractical in real terms. According to them, a large number of cases are filed against political activists. Even a case registered under Section 144 of the IPC is considered a criminal offence. Whereby, sedition cases are being filed against several Opposition leaders.
- Further, they pointed out that Left leaders in trade unions face several cases as they are in continuous conflict with the management. They can't be equated with criminals. The judicial system has its fallacies. Thousands of serious criminal cases are pending before courts. Therefore, this judgment should not be seen in isolation from the ground reality.

◎ CHALLENGES

- However, it must be underscored that the decriminalisation of politics cannot be achieved by judicial fiat alone.
- The political class has to respond to the challenge. Parties would probably justify their choice of candidates by pointing out that the law now bars only those convicted and not those facing charges, however serious they may be. Besides, they are apt to dismiss all pending cases as "politically motivated".
- Beyond this debate, a larger question looms about the significance of more information on the background of candidates, if voters back a particular leader or party without reference to the record of the candidates fielded.

Other major landmark judgments concerning electoral reforms:

- **Jan Chaukidari v/s Union of India:** In this case, SC upheld that those who are in lawful police or judicial custody, other than those held in preventive detention, will forfeit their right to stand for election.
 - Section 62(5) of Representation of People Act lays down that right to vote is not available to a prisoner, except a person under preventive detention. Thus, all prisoners who are not under preventive detention can neither vote nor can they contest elections.
- **Lily Thomas v/s Union of India:** SC ruled that any Member of Parliament (MP), Member of the Legislative Assembly (MLA) or Member of a Legislative Council (MLC) who is convicted of a crime and given a minimum of two-year imprisonment, loses membership of the House with immediate

effect. This is in contrast to the earlier position, wherein convicted members held on to their seats until they exhausted all judicial remedies in lower, state and the supreme court of India.

- Further, Section 8(4) of the Representation of the People Act, which allowed elected representatives three months to appeal their conviction was declared unconstitutional

◎ WAY FORWARD

- A legislative option is to amend the law to bar from contest those against whom charges have been framed.
- A more meaningful option would be for parties to refrain from giving a ticket to such candidates.
- Further, in this regard, making parliamentary legislation to curb criminalisation of politics may help to deliver constitutional governance.

SEDITION CASES IN INDIA

CONTEXT

- In the last two months, India has come across several cases of sedition being slapped against a range of people across the country.

◎ BACKGROUND:

- In India, sedition remains the most controversial offence out of all other offences.
- Section 124A of the Indian Penal Code (IPC) was introduced by the British Raj in 1870.
- The British brought in this law to crush the freedom struggle and terrorise those who might "wage war" against the government.
- In the 150 years since then, this draconian colonial relic, which even the British have now abolished, has been only misused.
- Globally, sedition is increasingly viewed as a draconian law and was revoked in the United Kingdom in 2010.
- In India itself, there have been two attempts, via private member bills, in the last decade to revoke it - but both efforts were thwarted by governments.
- More recently in 2018, the **21st Law Commission of India** issued a consultation paper asking for views on revoking sedition as an offence but the commission's term ended before it could deliver its recommendations.
- Over time, the Indian government's stance has been consistent on sedition.

The most famous victim of Sec 124A, tried in 1897, was **Lokmanya Tilak** for his writings in his newspaper **Kesari**. He was sentenced to prison, as was **Mahatma Gandhi** for his writings in Young India. Such cases reinforced the perception that this law was for muzzling freedom of speech and expression and browbeating government's critics and activists. The government's character changed in 1947, but its propensity for recourse to this law remains unchanged.

- Sedition is a Non-Bailable, Cognizable offence and triable by Court of Session. This offence is not compoundable. It criminalizes speech that is regarded to be disloyal to or threatening to the state.
- Punishment: Imprisonment for Life + Fine or 3 years + Fine or Fine.
- A person charged under Sec 124 is barred from a government job, deprived of a passport and required to appear in court at all times as and when required.
- The National Crime Records Bureau (NCRB), though, has only been collecting separate data on sedition cases since 2014.
- In 2014, there were 47 cases of sedition but that number increased to 70 in 2018 (the latest year with available data).

◎ ANALYSIS:

What is Sedition?

- The term 'Sedition' means 'conduct or speech which results in mutiny against the authority of the State'.
- Sedition, which falls under Section 124A of the Indian Penal Code, is defined as any action that brings or attempts to bring hatred or contempt towards the government of India and has been illegal in India since 1870.
- Sedition is when **"any person by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards the government established by law in India"**.

Is it a restriction on freedom of speech?

- Law of Sedition is a reasonable restriction on freedom of speech. It was drafted by **Thomas Macaulay** and introduced in 1870.
- In India, every citizen has been given the freedom to speak and express their views under **Article 19(1) (a)** of the Indian Constitution.
- However, this freedom is not absolute and some reasonable restrictions have been imposed on freedom of speech and expressions under Article 19(2).
- Clause (2) of Article 19 of the Constitution of India enables the legislature to impose certain restrictions on free speech under the following heads:
 - Security of the State
 - Friendly relations with foreign states

- Public order
- Decency and morality
- Contempt of court
- Defamation
- Incitement to an offence
- Sovereignty and integrity of India

Learning from the data:

- Recent **National Crime Records Bureau (NCRB)** data suggests that the number of sedition cases has increased in recent years as police in certain states clamp down on protesters.
- Compared to other offences, sedition remains a rare crime (it accounts for less than 0.01% of all IPC crimes).
- But within India, some parts are emerging as sedition hotspots. Assam and Jharkhand, for instance, with 37 sedition cases each, account for 32% of all sedition cases between 2014-2018. In Jharkhand, the police have used sedition to charge different types of protesters.
- In January, more than 3,000 protesters against the Citizenship Amendment Act (CAA) were charged with sedition while in 2019, more than 3,300 farmers were charged with sedition for protesting about land disputes.
- Though police in these states and elsewhere are charging more people with sedition, few cases result in a conviction.
- Since 2016, only four sedition cases have seen a conviction in court. One reason for this could be that sedition as an offence has no solid legal grounding in India.
- The Indian Constitution lays out freedom of expression as a fundamental right which many legal scholars have argued prevents sedition from being an offence.

Unlawful Activities:

- **Unlawful Activities (Prevention) Act (UAPA):**
 - Sedition is a colonial relic and a broadly worded preventive provision that should only be read as an emergency measure.
 - Partly to address this, in 1967, the government enacted the Unlawful Activities (Prevention) Act (UAPA).
 - This was meant to be a more specific law intended to impose more reasonable restrictions on freedom of speech in the interests of sovereignty and integrity of India.
 - In 2018, there were 1,182 cases registered under UAPA. And almost all these cases (92%)

were concentrated in five states (Uttar Pradesh, Jammu and Kashmir, Assam, Jharkhand and Manipur).

◦ **Prevention of Damage to Public Property Act:**

- UAPA and sedition though are just two of the many offences that can be committed against the state.
- Under the NCRB's breakdown of offences against the state, the biggest offence comes under the Prevention of Damage to Public Property Act.
- The Act, which lays down the law about damage to public property, accounted for more than 80% of all offences against the state in 2018 and has increased since 2016.

◦ **Anti-national elements:**

- In addition to these offences, NCRB, starting in 2017, introduced a new category of crime: incidents of violence by "anti-national elements".
- These anti-national elements- bucketed into four groups:
 - north-east insurgents
 - 'jihadi' terrorists
 - Naxalites
 - other terrorists
- This category had 1,012 cases registered against them in 2018.

Sedition laws in international jurisdiction

- The United Kingdom (UK) completely removed the seditious libel through the **Coroners and Justice Act, 2009**.
- In Australia, following the recommendations of the **Australian Law Reform Commission (ALRC)** the term sedition was removed and replaced with references to 'urging violence offences'.

Significance of the Law:

- **Toxifying the harmful elements:** No doubt, the law has its utility in combating anti-national, secessionist and terrorist elements.
- **Bringing stability:** The law effectively protects the elected government from attempts to get overthrown with violence and illegal means. The continued existence of the government established by law is an essential condition of the stability of the State.

The other side of the coin:

- **Unsuitable for democracy:** The Sedition law is a relic of colonial legacy and unsuited in a

democracy like India. Right to question, criticize and change rulers is very fundamental to the idea of democracy. However, such questions get constructed as sedition.

- **Constraint on freedom:** It is a constraint on the legitimate exercise of constitutionally guaranteed 'freedom of speech and expression'.

◎ **CONCLUSION:**

Section 124A will be completing its 150 years this year, and its continued presence is a reminder of

many similarities between the colonial and the post-colonial Indian State. From its very beginning, this law aimed to strengthen the State vis-à-vis Indian people, and the continued use of this section to hound social and political activists is a glaring reminder, of how little has changed as far as the relationship between the Indian State and Indian people is concerned. This is high time the government should outline what could be done to get rid of this law and what course of action should the advocates of free speech follow to put pressure so that this draconian section be repealed.

SECTION: B
(PRELIMS)

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INDIA'S NOMINATION FOR 2020 WORLD HERITAGE LIST

◎ CONTEXT

- Government of India has submitted two nomination dossiers namely 'Dholavira: A Harappan City' and 'Monuments and Forts of Deccan Sultanate' for inclusion in the World Heritage List for the year 2020.

◎ ABOUT

• Dholavira:

- The city of Dholavira located in Khadir island of the Rann of Kutchch belonged to matured Harappan phase.
- Dholavira is one of the five largest Harappan sites in the world and the most prominent archaeological site in India belonging to Indus Valley Civilization.
- Dholavira was known for the excellent water storage system and town planning. The inhabitants of Dholavira were master water conservationists.
- No significant rivers were flowing by, just two rivulets — Mansar and Manhar. Nine reservoirs were built around the city to store water. The city itself is divided into three parts — the Citadel, the Middletown and the Lower Town.

• Monuments of the Deccan Sultanate

- The 'Monuments of the Deccan Sultanate' is a serial property comprising of four component constitute the most representative, most authentic and best-conserved examples of **Deccani Sultanate** monuments in India.
- The series demonstrates the exemplary convergence of national and international styles of Islamic architecture and their intersections with the prevalent Hindu architecture of the period southern Indian in present-day **Karnataka** and **Andhra Pradesh**.
 - **Bahmani Monuments** at Gulbarga, Karnataka
 - **Bahmani and Barid Shahi Monuments** at Bidar, Karnataka
 - **Adil Shahi Monuments** at Bijapur, Karnataka
 - **Qutb Shahi Monuments** at Hyderabad Andhra Pradesh

What is UNESCO's World Heritage List?

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972.
- The world heritage list aims to recruit the world community in identifying cultural and natural properties of "outstanding universal value."

The Convention:

- The 1972 Convention concerning the Protection of the World Cultural and Natural Heritage developed from the merging of two separate movements: the first focusing on the preservation of cultural sites, and the other dealing with the conservation of nature.
- The Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List.
- India ratified the Convention in 1977.

UNESCO Heritage Site in India:

- There are 38 **UNESCO World Heritage Sites** in India. The sites are broken down into the following categories: 30 cultural sites, 7 natural sites, and 1 mixed site.

UNESCO Heritage Sites in India			
1	Kaziranga Wildlife Sanctuary, Assam (1985)	2	Sun Temple, Konarak (1984)
3	Manas Wildlife Sanctuary, Assam (1985)	4	Keoladeo National Park (1985)
5	Mahabodhi Temple Complex at Bodh Gaya, Bihar (2002)	6	Jantar Mantar, Jaipur (2010)
7	Humayun's Tomb, Delhi (1993)	8	Group of Monuments at Mahabalipuram (1984)
9	Qutb Minar and its Monuments, Delhi (1993)	10	Great Living Chola Temples (1987)
11	Red Fort Complex (2007)	12	Agra Fort (1983)
13	Churches and Convents of Goa (1986)	14	Fatehpur Sikri, Uttar Pradesh (1986)
15	Champaner-Pavagadh Archaeological Park, Gujarat (2004)	16	Taj Mahal (1983)
17	Group of Monuments at Hampi (1986)	18	Mountain Railways of India (1999, 2005, and 2008)
19	Group of Monuments at Pattadakal (1987)	20	Nanda Devi and Valley of Flowers National Parks (1988)
21	Buddhist Monuments at Sanchi, Madhya Pradesh (1989)	22	Sundarbans National Park (1987)
23	Rock Shelters of Bhimbetka, Madhya Pradesh (2003)	24	Western Ghats (2012)
25	Khajuraho Group of Monuments, Madhya Pradesh (1986)	26	Hill Forts of Rajasthan (2013)
27	Ajanta Caves (1983)	28	Rani ki vav – The Queen's Stepwell (2014)
29	Ellora Caves (1983)	30	Great Himalayan National Park (2014)
31	Elephanta Caves (1987)	32	Nalanda (2016)
33	Chhatrapati Shivaji Terminus – Formerly Victoria Terminus (2004)	34	Khangchendzonga National Park (2016)
35	Historic City of Ahmadabad (2017)	36	The Architectural Works of Le Corbusier (2016)
37	Victorian and Art Deco Ensemble of Mumbai (2018)	38	The walled city of Jaipur (2019)

Significance of the inclusion:

- UNESCO seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- The international recognition to the heritage precinct can significantly boost the local economy in various manners. It also gives a tremendous fillip to domestic and international tourism leading to increased employment generation, the creation of world-class infrastructure and heritage memorabilia.
- Furthermore, inclusion into the UNESCO's list becomes a matter of pride to the nation.

BLACK CARBON DEPOSITS ON HIMALAYAN GLACIERS

◎ CONTEXT

- According to new research by scientists from NASA and Chinese Academy of Sciences, soot deposited on Tibetan glaciers has contributed significantly to retreat of the world's largest non-polar ice masses – the Himalayan glaciers.

◎ ABOUT

- According to research, **black carbon deposits** on Himalayan ice **threaten earth's "third pole"**. Tibet's glaciers are retreating at an alarming rate.
- **The study:** To better understand the role that black soot has on glaciers, researchers trekked high into the Himalayas to collect ice cores that contain a **record of soot deposition that spans back to the 1950s**.
 - Researchers collected **ice cores** at five locations on the Tibetan Plateau.
 - The amount of soot at site number five, **Zuoqiupu glacier**, increased by **30 percent** between 1990 and 2003.
 - Rise in soot levels at Zuoqiupu follows a dip that followed the **enacting of clean air regulations in Europe in the 1970s**.
 - According to another study, black carbon concentrations **near the Gangotri glacier rose 400 times** in summer due to forest fires and stubble burning from agricultural waste and triggered glacial melting.
- **Techniques used in the study:** Scientists use satellite instruments such as the Moderate Resolution Imaging Spectroradiometer (**MODIS**) **aboard the NASA satellites Terra and Aqua** to enhance understanding of the region's albedo.
 - A new **NASA climate satellite called Glory** will carry a new type of **aerosol sensor** that should be able to **distinguish between aerosol types** more accurately than previous instruments.

Black soot/Black carbon – details

- Black soot is generated from **industrial pollution, traffic, outdoor fires, and household burning of coal and biomass fuels**.
- Soot **absorbs incoming solar radiation** and can **speed glacial melting** when deposited on snow in sufficient quantities.
- Soot includes **black carbon**, as well as **organic carbon**.
- Many **industrial processes produce both** black carbon and organic carbon, but often in different proportions.
- Burning **diesel fuel produces mainly black carbon**.
- **Burning wood produces mainly organic carbon**.
- Since **black carbon is darker** and **absorbs more radiation**, it's thought to have a **stronger warming effect** than organic carbon.
- The fine particles **absorb light and about a million times more energy** than carbon dioxide.
- Black carbon results from **incomplete combustion of fossil fuels and biomass**.
- It is said to be the **second-largest contributor to climate change after CO₂**.
- Unlike CO₂, which can stay in the atmosphere for years together, **black carbon is short-lived** and remains in the atmosphere only for days to weeks before it descends as rain or snow.
- **India is the second-largest emitter of black carbon** in the world, with emissions expected to increase dramatically in the coming decades. **Indo Gangetic plains** are said to be the largest contributor.

Warming of Tibetan Plateau

- **Temperature increase:** Temperatures on the Tibetan Plateau – sometimes called Earth’s “third pole” – have warmed by 0.3°C (0.5°F) per decade over the past 30 years, about **twice the rate of observed global temperature increases**.
- **The retreat of glaciers:** Fifty percent of the glaciers were retreating from 1950 to 1980 in the Tibetan region; that rose to **95 percent in the early 21st century**.
 - Some glaciers are retreating so quickly that they **could disappear by mid-century** if current trends continue.
 - **General plateau-type glaciers** – mostly found in Tibet – **are retreating faster** than valley types.
 - The number of **glacial lakes at high altitudes is increasing**. If this burst, they pose a danger.
- **Black soot is the cause:** Black soot is responsible for as much as **half of the glacial melt**, and **greenhouse gases** are responsible for the rest.
 - During the last 20 years, the black soot **concentration increased two- to three-fold** relative to its concentration in 1975.
- **Reason for black carbon increase:** **Black carbon**, which is **caused by incomplete combustion**, is especially prevalent in **India and China**. The main reason for the increase in black carbon in the region is **accelerated economic activity** in India and China over the last 20 years
 - Most soot in the region **comes from shipping, diesel engines, coal-fired power plants, and outdoor cooking stoves**.
 - According to one study, black carbon emitted in India **increased by 46 percent** from 1990 to 2000 and by another **51 percent** from 2000 to 2010.
- **Mechanism of black soot related warming:** **Atmospheric aerosols** are tiny particles containing **nitrites, sulfates, carbon and other matter**, and can influence the climate. Unlike other aerosols, **black carbon absorbs sunlight, similar to greenhouse gases**.
 - But unlike greenhouse gases, black carbon does not heat the surface; **it warms only the atmosphere**.
 - This warming is **one of two ways in which black carbon melts snow and ice**.
 - The second effect results from the **deposition of the black carbon on a white surface**, which produces an **albedo effect that accelerates melting**. Dirty snow absorbs far more sunlight—and gets warmer faster—than pure white snow.
 - Black carbon can have a powerful effect on **local atmospheric temperature**. A small amount of black carbon tends to be **more potent** than the same mass of sulfate or other aerosols.

Importance of Himalayan glaciers

- **Replenish Himalayan rivers:** Himalayan glaciers help replenish many of Asia’s most important rivers – including the **Indus, Ganges, Yellow, and the Brahmaputra** – such losses can have profound impact on billions of people who rely on these rivers for freshwater.
 - One-quarter of the population of China is in western regions where **glacial melt provides the main dry season water source**.
- **Seasonal freshwater supply:** While rain and snow would still help replenish Asian rivers in the absence of glaciers, the change can **hamper efforts to manage seasonal water resources** by **altering when freshwater supplies** available in areas already prone to water shortages.
 - Reduced black soot emissions, in addition to reduced greenhouse gases, is required to avoid the demise of Himalayan glaciers and retain the **benefits of glaciers for seasonal freshwater supplies**.

Other issues caused by black carbon increase

- **Affects precipitation:** Black carbon affects precipitation and is a major factor in triggering **extreme weather in eastern India and Bangladesh**, where cyclones, hurricanes and flooding are common. There is also a case of **black carbon led droughts in northern China** and **extreme floods in southern China**. Similarly, almost all **glaciers in Nepal are in retreat**.
 - It contributes to the **decrease in rainfall over central India**.
 - Because black carbon heats the atmosphere, it **changes the local heating profile**, which **increases convection**, one of the primary causes of precipitation
 - While this results in more intense rainfall in some regions, it leads to less in other regions.

BUNDLING SCHEME FOR RENEWABLE ENERGY

◎ CONTEXT

- Ministry of New and Renewable Energy (MNRE) has proposed 'bundling' scheme to boost to renewable energy.

◎ ABOUT

- **MNRE 'bundling scheme':** In order to boost the renewable energy sector, MNRE has come out with the draft framework for a scheme to **supply round-the-clock (RTC) power from wind and solar plants**.
 - The scheme proposes to **sell renewable energy and thermal power together in a 'bundle'** so that buyers can get the assurance of receiving firm uninterrupted electricity supply.
- **Objective:** The scheme aims at **addressing** issues of **intermittency, limited hours of supply and low capacity utilisation** at renewable power plants, and make them more attractive for state-owned power distribution companies (**discoms**).
- **Working of the scheme:** MNRE has proposed that a government authorised intermediary agency would carry out **auctions** where power sellers can quote **single composite tariffs** for renewable energy-based power, combined with one single thermal fuel source (**coal or gas**).
 - The intermediary agency would then **sell the power to discoms**.
- **Energy structure in India:** Approximately, **70 per cent** of India's power requirements are coal-based. The higher cost of thermal power is attributed to **rising in the cost of coal imports and no significant capacity addition**. Solar and wind tariffs are cheaper than the cost of thermal power.

Details of bundling scheme

- **Renewable energy supply:** The generator is required to supply **at least 51%** of electricity sold under this scheme from renewable sources.
 - Renewable power may include a **combination of solar, wind, small hydro** with or without any energy storage system.
 - The renewable energy component bought under this scheme shall be eligible for complying with **renewable purchase obligation (RPO) norms**.
- **Composite tariff:** The composite tariff would consist of **51%** renewable energy tariff, **30%** thermal fuel cost and the **remaining** would account for the fixed thermal tariff.
 - The **proportion of thermal tariff shall be adjusted** to cover the possible changes in coal or gas prices, as per the index to be notified by the regulatory commission.
- **Responsibility with power generator:** Power generator will be responsible for supplying the composite power, hence, discoms will no more have to integrate renewable power into the grid.

Need for bundling scheme

- **Erratic supply of renewable sources:** Over time, the de-risking of the renewable energy sector, coupled with the advancement of technologies, resulted in **bringing down renewable energy tariffs**. But a drawback that goes against renewable energy is its **intermittency** when the sun doesn't shine or the wind doesn't blow. This makes it **difficult for discoms to maintain a stable and steady flow of power**, especially in case of large projects where they have to balance power to maintain grid stability and meet requirements even when renewable energy is not available.
 - Reverse bundling, wherein **high-cost thermal power is bundled with cheaper renewable energy** to provide round-the-clock power supply to discoms solves this problem.
- **Reduce additional burden for discoms:** Even as the cost of renewable energy capacity decreased, **discoms continued to buy thermal power (under contractual obligation)** which accentuated their problem as **coal got costlier**. Government is now attempting to do "reverse bundling", which involves adding more renewable energy to the energy mix.
 - The scheme will **bring down power buying costs** for state discoms.
- **Reduce the burden on thermal assets:** The scheme will provide relief to bankers as it would provide an opportunity for stressed **thermal assets to find buyers** for their power, which are stranded due to **lack of power purchase agreements (PPAs)**.
 - It will thereby reduce the quantum of **non-performing assets**.
 - It will also help with the **utilisation of untied thermal power capacity**.

Way forward and Policy suggestion

- Creation of a **renewable energy database** will serve both policymakers and developers. For the former, it can be an **early-warning mechanism**, allowing them to make targeted, timely and effective **evidence-based interventions**. For the latter, it can be a valuable tool to **source capital at scale on favourable terms** as a result of increased transparency.

HEAT WAVES

◎ CONTEXT

- The India Meteorological Department (IMD) has warned that the summer will be **hotter by an average of above 1 degree celsius than the normal**.

◎ ABOUT

- A Heat Wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India.
- Heat Waves typically occur between March and June, and in some rare cases even extend till July.
- The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

What causes heat wave?

- Heatwaves occur when a system of **high atmospheric pressure** moves into an area and air from upper levels of the atmosphere is pulled toward the ground, where it becomes compressed and increases in temperature.
- This high concentration of pressure makes it difficult for other weather systems to move into the area. Due to this, a heatwave can last for several days or weeks in an area.
- The high-pressure system also prevents clouds from entering the region, sunlight can become punishing, heating the system even more.

- The combination of all of the above factors come together to create the exceptionally hot temperatures called 'heatwave'.

Heat Wave Zone:

- The heatwave zone refers to areas prone to heatwaves. According to the Indian Meteorological Department (IMD), heatwave is recorded when:
 - The departure of maximum temperature from normal is + 4 degrees C to + 5 degrees C or more for the regions where the normal maximum temperature is more than 40 degrees C
 - The departure of maximum temperature from normal is + 5 degrees C to + 6 degrees C for regions where the normal maximum temperature is 40 degrees C or less
 - Heat Wave is declared only when the maximum temperature of a station reaches:
 - at least 40 degrees C for plains
 - at least 30 degrees C for hilly regions
 - Heatwave is also declared when the actual maximum temperature remains 45 degrees C or more irrespective of normal maximum temperature.

◎ BACKGROUND

- This is for the second consecutive year that IMD has forecast a hotter than usual summer (March-May 2020).
- Last year, India witnessed an unprecedented heatwave spell that started early in March. By the first week of June, there were 73 spells of a heatwave.
- According to the National Disaster Management Authority (NDMA), 23 states reported heatwaves in 2019, up from 19 in 2018.
- For 2020, scientists have already warned it would be among the 10 warmest years on record.
- This is based on the weather conditions of the first two months of the year. January this year was the warmest in 141 years.
- NASA recently declared that Antarctica recorded its highest-ever temperature on record on February 6.

Threats posed by Heat Waves:

- **Health:**
 - The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke. The signs and symptoms are as follows:
 - **Heat Cramps:** Edema (swelling) and Syncope (Fainting) generally accompanied by fever below 39°C i.e. 102°F.
 - **Heat Exhaustion:** Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
 - **Heat Stroke:** Body temperatures of 40°C i.e. 104°F or more along with delirium, seizures or coma. This is a potentially fatal condition.
- **Economy:**
 - The majority of Indian people work in areas such as agriculture and construction, making the country particularly vulnerable to extreme heat and floods.
 - Rising temperatures could also affect the government's ability to lift people out of poverty, because of the effect of extreme heat on how much a person is able to produce in a given period of time, something economists refer to as productivity.
- **Agriculture**
 - Heatwaves can be particularly damaging to agriculture, especially at night, as various crops require cool night temperatures.

- Besides, heat stress for livestock also rises when animals are unable to cool off at night. They can experience declines in milk production, slower growth, and reduced conception rates.
- India is used to intense early summers. May is typically India's hottest month. Heatwaves are common in India and the country is in for more rough summers.
- India's geography, near the equator and the tropics, its poverty, high population and relative lack of energy resources worsens the situation. It is the task of the government to incorporate the challenges of climate change into the road ahead while exploiting the co-benefits of the changed scenario.

HOW INDIA CAN BE AN OPPORTUNITY FOR CHEETAH, AND WHY IT WILL TAKE TIME?

◎ CONTEXT

- The reintroduction of cheetahs in India can be very useful for the species, and very important for the biodiversity of India's grassland ecosystems, an expert explains.

◎ ABOUT

- There are 31 cheetah populations spread in 23 countries and we all know that population is declining due to human cause at this point, like human-wildlife conflict, a decline of prey, loss of habitat, illegal wildlife trade, etc.
- For example, in Namibia, a small CITES quota exists of cheetahs as legal trophy-hunting, and possibly up to 200 more are removed by farmers as laws there say that you can take the animal if there is the fear of loss of life or property.
- Plus, the illegal trade is coming from the Horn of Africa where cubs would be snatched from the wild; their mother is either killed or not killed.

What role does the Cheetah Conservation Fund (CCF) play in Namibia?

- They, like any other predators, would prefer prey rather than livestock.
- It is important to maintain that balance to have enough prey for the predators. Getting rid of predators can cause more problems, as it opens up territories and other dispersal animals come into the open territory.
- For instance, research has shown that removing jackals increases the jackal population due to their reproductive behaviour.
- The more you kill jackals, the higher is the jackal population.
- In Namibia, there are still issues, but the government is aware that cheetahs are the one species that is being affected by human-wildlife conflict and everybody is making plans.
- There are an estimated 1,500 adult and adolescent cheetahs.

If India goes ahead with its plan to reintroduce the cheetah, what will be the factors at play?

- If India is willing to give it a try, it can be very useful for the species, and very important for the biodiversity of India's grassland ecosystems and helping cascade facts as to what a top predator can do in helping other species which are in that ecosystem, like the Indian bustard and the caracal, both needing help for their survival.
- India is indeed a different continent from Africa, but then cheetahs are very adaptable.
- Just what we know from international captive facilities and breeding programmes, cheetahs are adaptable.
- But today cheetahs need places to live in the wild. India is providing an opportunity of a new landscape, a landscape which can also assist other species within.

- It is going to assist the biodiversity here in the country as well.
- Cheetahs are not aggressive animals.
- If communities manage their livestock well, and there is a wildlife prey base, there are arid landscapes here in India that are perfect for cheetah.
- At the same time, cheetahs are also found in a variety of landscape throughout its range there in Africa, from thorn-bush Savannah to arid Savannah.

How can India address such issues?

- Put them in a proper habitat and then create awareness, supporting research projects, and realise that it is going to take several years to re-establish populations.
- Look at the population support that has gone on in the United States for species like the California condor. It was nearly extinct. That programme is ongoing for 40 years and, after 40 years, now we can call it successful.
- Cheetahs are fast too, but its reestablishment is going to be long-term and it's not going to be fast.

Have there been such relocation experiments elsewhere?

- There have been a lot of reintroductions in the southern part of Africa.
- Last year, there was the reintroduction of cheetah up into Malawi where they were extinct.
- Extinction takes time and bringing the species back takes more time and more money.

SUKHNA LAKE BECOMES A 'LIVING ENTITY'

◎ CONTEXT

- The Punjab and Haryana High Court has declared Sukhna Lake a “living entity” or “legal person” with rights, duties and liabilities of a living person. It also declared all citizens of Chandigarh as *loco parentis* (in the place of a parent) to save the lake from extinction.

◎ ABOUT

- Sukhna Lake is situated at the foothill of Shivalik Hills in the city of Chandigarh. The famous Rock Garden of Chandigarh is located on the banks of this lake.
- The Lake was created in 1958, by damming a seasonal stream **Sukhna Choe**, which cascade from the Shivalik Hills.
- Sukhna Reservoir was also designed by **Le Corbusier (Chief Architect of Chandigarh city)** and the **Chief Engineer P L Verma** in the year 1974.
- Several migratory birds like cranes, Siberian ducks, storks, etc., can be seen during the season.

The decision:

- Sukhna Lake has been declared a legal entity/legal person/juristic person/ juridical person/moral person/artificial person with distinct persona with corresponding rights, duties and liabilities of a living person
- The court observed that Sukhna Lake is required to be declared as a legal entity for its survival, preservation and conservation.
- The Chandigarh administration has been directed to declare it a wetland within a period of three months.
- The HC also ordered that all structures in Sukhna's catchment area (which was demarcated by the Survey of India in 2004) should be demolished, and affected owners whose building plans have been approved should be relocated in the vicinity of Chandigarh and they should be compensated with ₹25 lakh each.

Similar examples:

- In 2008, **Ecuador** became the first country to enshrine the legal rights of nature in its constitution.
- **Bolivia** passed a similar law in 2011.
- Meanwhile, **New Zealand** in 2017 became the first country to grant the **Whanganui river** legal rights, followed by the Indian state of **Uttarakhand**, when it declared the **Yamuna** and **Ganges** rivers "living entities" (a verdict that was later stayed by the Supreme Court).
- El Salvador recognized its forests as living entities and stated that each person must commit to caring for, preserving, and respecting forests.
- In 2019, the city of **Toledo, Ohio**, passed what is known as the **Lake Erie Bill** of Rights to protect its shores, making it one of several U.S. communities to have passed legislation recognizing the rights of nature.
- In July 2019, **Bangladesh** became the first country to grant all of its rivers the same legal status as humans.

What does being "living entity" means?

- Rights are the obligations that society and state have for establishing sustainable relationships.
- With this ruling, Sukhna Lake is no more voiceless water body, but "person" with legal rights.
- As "juristic person", the lake, have a right to be legally protected from any kind of harm or destruction.
- Polluting it, henceforth, could entitle to human rights violation for which it can take legal recourse.
- From now, the lake can be a party to disputes and rights violation, represented by court-appointed individuals who can file and contest cases on its behalf.
- Over the last few years, various environmentalists, social leaders have called for recognizing rights of nature in the country. Now, it is hoped that such examples and recognitions can inspire many other countries to take similar actions.

SC STRUCK DOWN BAN ON CRYPTO-CURRENCIES

◎ **CONTEXT**

- The Supreme Court has struck down a ban on the trading of cryptocurrencies in India, which was imposed by the Reserve Bank of India (RBI) in April 2018.

◎ **ABOUT**

- SC held that the ban did not pass the "proportionality" test. The test of proportionality of any action by the government must pass the test of Article 19(1)(g) of the Constitution, which states that all citizens of the country will have the right to practise any profession or carry on any occupation or trade and business.

WHERE OTHER COUNTRIES STAND

Canada: Cryptocurrencies permitted as payment system and as a form of investment; income from them is taxed

Switzerland: Permitted as a payment system (including consume-to-government transactions) and as a form of investment

Japan: Permitted and regulated as a payment system

China: Banned for all purposes

- Till date, the RBI has not come out with a stand that any of the entities regulated by it have suffered any loss or adverse effect directly or indirectly, on account of virtual currency (VC) exchanges.

- Besides, the court found that the RBI did not consider the availability of alternatives before issuing the order i.e. achieving the same objective by imposing a less drastic restraint.
- **Inconsistent with the RBI's Stand:** The RBI's order was disproportionate" with an otherwise consistent stand taken by the central bank that VCs are not prohibited in the country.
- **Referred to the Global Approach:** Organisations across the globe have called for caution while dealing with virtual currencies, while also warning that a blanket ban of any sort could push the entire system underground, which in turn would mean no regulation.
- **On RBI's Power:** The Court held that the RBI has powers to regulate any currencies in the system.

© BACKGROUND

- The RBI order prohibited banks and entities regulated by it from dealing in VCs or providing services for facilitating any person or entity in dealing with or settling VCs.
- Such services include maintaining accounts, registering, trading, settling, clearing, giving loans against virtual tokens, accepting them as collateral, opening accounts of exchanges dealing with them and transfer/receipt of money in accounts relating to purchase/ sale of VCs.

Virtual Currencies

- There is no globally accepted definition of what exactly is a virtual currency. Virtual currency is the larger umbrella term for all forms of non-fiat currency being traded online.
- Fiat Money is a kind of currency, issued by the government and regulated by a central authority such as a central bank. Such currencies act like legal tender and are not necessarily backed by a physical commodity.
- Virtual currencies are mostly created, distributed and accepted in local virtual networks. Virtual Currencies also includes cryptocurrencies.
- Cryptocurrencies have an extra layer of security, in the form of encryption algorithms.
- Most cryptocurrencies now operate on the blockchain technology, which allows everyone on the network to keep track of the transactions occurring globally.
- Popular forms of cryptocurrencies include Bitcoin, Ethereum, etc.
- Satoshi Nakamoto, widely regarded as the founder of the modern virtual currency bitcoin and the underlying technology called blockchain, defines bitcoins as "a new electronic cash system that's fully peer-to-peer, with no trusted third party (central regulator)".

Implications of the Judgement

- With the order, resumption of operations at cryptocurrency exchanges and backward linkages with the banking sector are expected.
- Even as virtual currency investors and businesses will welcome the Supreme Court's order on cryptocurrency, the relief for such players may be only temporary given that the Centre, in a draft law, has proposed to ban all private cryptocurrencies.
- The Supreme Court's judgment could lead to the RBI rethinking its policies surrounding virtual currencies.

© CONCLUSION

- The various stakeholders have welcomed the decision as they hope that it will increase investment and employment opportunities in India. RBI must relook its decision of banning virtual currencies in India.

MEGHALAYA IS DEMANDING INNER PERMIT LINE

◎ CONTEXT

- The tribals of Meghalaya are protesting against the CAA and NRC because they do not want “outsiders” coming in to take their land and businesses or dominating their economy. While protesting the CAA, the people of Meghalaya are also demanding the implementation of something called the Inner Line Permit, which was a system started by the British.

◎ ABOUT

- The Inner Line Permit concept comes from the colonial area. Under the Bengal Eastern Frontier Regulation Act, 1873, the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas.
- This imaginary line decreed that people who lived outside of the boundary could not enter without a permit.
- Simply put, an Inner Line Permit is a document that allows an Indian citizen to visit or stay in a state that is protected under the ILP system.
- The system is in force today in three northeastern states:
 - Arunachal Pradesh
 - Nagaland
 - Mizoram
- No Indian citizen can visit any of these states unless he or she belongs to that state, nor can he or she overstay beyond the period specified in the ILP.
- An ILP is issued by the state government concerned. It can be obtained after applying either online or physically.
- It states the dates of travel and also specifies the particular areas in the state which the ILP holder can travel to.

The CAA connection:

- The **Citizenship (Amendment) Act** aims to make it easier for non-Muslim refugees from **Bangladesh, Pakistan, and Afghanistan** to obtain Indian citizenship.
- It means that beneficiaries under CAB will become Indian citizens but will not be able to settle in these **three states**.
- As a matter of fact, the same restriction applies to existing Indian citizens.
- Arunachal Pradesh and Nagaland are not among those drastically affected by migration from Bangladesh. Mizoram shares a border with Bangladesh.
- The three states that have seen the highest migration, however, are **Assam, Tripura and Meghalaya**, none of which has an ILP system.

Knowing the State:

- Meghalaya is a tiny state, with approximately 30 lakh people stretched across 22,000 square kilometres. On the south side, it borders Bangladesh and on the northern side, it borders Assam.
- Meghalaya came into being in 1972 after Assam was reorganised, and has a population of over 90 per cent tribals.
- They are divided into two broad groups:
 - the Garos (in the western side of the state)
 - the Khasis (in the east)
- Khasis are about 56 percent and Garos are about 34 percent.

- Meghalaya is the only other tribal-majority state in the region beyond the purview of the inner line – an anomaly tribal groups canvassing for it routinely point out.
- This despite the fact that parts of the state – the Khasi and the Jaintia hills – do fall under the jurisdiction of Bengal Eastern Frontier Regulation.

What does the state want?

- In the wake of the anti-CAA protests, which reintroduced the fear of outsiders, Meghalaya's Assembly unanimously passed a resolution urging the Government of India to implement **Inner Line Permit** in the state.
- If this happens, it will be a regressive step for the North East, considering over the years, the requirements of the ILP have softened and been diluted.

AGREEMENT FOR BRINGING PEACE TO AFGHANISTAN

◎ CONTEXT

- The United States has signed an agreement with Taliban insurgents that could pave the way for ending the 18-year-war in Afghanistan in Doha (Qatar).

◎ ABOUT

Highlights of the Agreement

- **Military troops withdrawal:** It lays out a 14-month timetable for the withdrawal of "all military forces of the United States, its allies, and Coalition partners, including all non-diplomatic civilian personnel, private security contractors, trainers, advisors, and supporting services personnel."
- **Release of prisoners:** The agreement also calls for the release of 5,000 Taliban prisoners and 1,000 "prisoners of the other side" on the first day of intra-Afghan negotiations. The relevant sides have the goal of releasing all the remaining prisoners over the course of the subsequent three months.
- **Comprehensive Ceasefire** between the Afghan Government and Taliban.
- **The prevention of the use of Afghanistan by any group or individual against the security of the United States and its allies.**
- **Facilitation of an intra-Afghan dialogue:** The participants of intra-Afghan negotiations will discuss the date and modalities of a permanent and comprehensive ceasefire, including agreement over the future political roadmap of Afghanistan.

Background

- The war in Afghanistan was launched by the US in 2001 after the 9/11 attack. The US-led coalition aimed to overthrow the Taliban.
- However, the war in Afghanistan got derailed as the U.S. shifted focus and resources towards Iraq from 2003 onwards.
- The end objective of a stable and peaceful Afghanistan began to recede as the Taliban launched their insurgency in 2005 after they had recovered, regrouped and refinanced themselves from their sanctuary in Pakistan.
- Since then, the insurgency has gathered momentum and also exposed the U.S.'s policy weaknesses.
- After taking over in 2009, President Barack Obama authorised a surge in U.S. troop presence with the objective to gain a decisive victory over the insurgency. He simultaneously announced the drawdown of forces would commence in 2011, and by 2014 the Afghan security forces would take charge of all combat operations.

- However, this only encouraged the Taliban insurgency and exposed the shortcomings of the Afghan army and the police forces, in terms of numbers, training and equipment to deal with the post-2014 situation.
- In 2014, the U.S. announced the withdrawal of the bulk of soldiers but a few thousand U.S. soldiers were to stay behind to "advise, train and assist" the Afghan security forces under Operation Resolute Support.
- In 2017, the U.S. President Donald Trump laid out a strategy for "Afghanistan and South Asia".
- His policy was different from those of his predecessors as it stated that American involvement in Afghanistan was "not for nation-building" but was limited to "killing terrorists."
- He called this policy "Principled Realism" - with a shift from a time-based approach to one based on conditions. This policy was based on two pillars:
- **Military Involvement:** The additional troops which would serve two roles: counterterrorism missions and training the Afghan forces.
- **Political Involvement:** A negotiated political settlement with the Taliban, if the situation moves in that direction.
- Since October 2018, Taliban representatives and US officials have been meeting to chalk out a peace treaty.

India's Stand

- India has been always supportive of the inclusive peace process, specifically Afghan-owned, Afghan-led and Afghan-controlled.
- The participation of the Afghan government's delegation during the Doha agreement as well as the upcoming intra-Afghan peace negotiations would be following the path desired by India.
- The deal has reiterated India's commitment to Afghanistan's pursuit of "sustainable peace and reconciliation".
- Thus, India has accepted the Doha Agreement (2020).

© CONCLUSION

- Achieving lasting peace in Afghanistan will require more than the Doha Agreement. It is indeed a good step for peace in Asia as well in Afghanistan. To resolve conflict within Afghanistan, the battlefield needs to be isolated i.e. external support to the terrorist activities needs to be abandoned. Also, the countries need to keep their respective interests aside, to build peace in the region.

ECI NOT IN FAVOUR OF STATE FUNDING OF ELECTIONS

© CONTEXT

- Recently, the Minister of State for Finance has informed Lok Sabha that the Election Commission of India (ECI) is not in favour of state funding of elections.

© ABOUT

- The ECI has stated that it would not be able to prohibit or check candidates' expenditure or expenditure by others over and above that which is provided for by the state.
- It has also mentioned that for addressing the real issues with political fundings, there need to be changed in the following elements of the election funding process :
 - Receipts of funds by political parties.
 - The manner in which received funds are spent by the political parties.
 - Complete transparency in the political funding process.

- The scrutiny over the above aspects will help to bring better transparency in political funding.

Background

- The state funding of elections was recommended by the **Indrajit Gupta Committee in 1998**.
- **ECI allows airtime** to recognised national and State parties for campaigning on state media.
- It had recommended that funding should be given in the form of free facilities provided to these parties and their candidates.
- **Law Commission Report (1999)**
 - It had stated that a state funding of elections is 'desirable' provided that political parties are prohibited from taking funds from other sources.

National Commission to Review the Working of the Constitution (2000)

- It did not support state funding of elections but mentioned that the appropriate framework for the regulation of political parties would need to be implemented before state funding is considered.

Current Scenario of Political Funding

- Political Funding implies the methods that political parties use to raise funds to finance their campaign and routine activities.
- Methods of Political Funding in India:
 - **Individual Persons:** Section 29B of RPA allows political parties to receive donations from individual persons.
 - **Indirect State Funding:** It includes methods except direct funding, like free access to media, free access to public places for rallies, free or subsidized transport facilities. It is allowed in India in a regulated manner.
 - **Corporate Funding:** In India, donations by corporate bodies are governed by the Companies Act, 2013.
 - **Electoral Trusts:** A non-profit company created in India for orderly receipt of voluntary contributions from any person like an individual or a domestic company.

Issues with Political Funding

- One of the biggest disadvantages of corporate funding is the use of fake companies to route black money.
- Influence of people and companies over political parties to which they provide funds.
- There are various gaps in Indian rules, the benefit of which political parties take to avoid any kind of reporting.
- Hidden sources of funding lead to more spending of funds in election campaigns, thus impacting the economy of the country.

◎ CONCLUSION

- State funding of election though recommended by many committees is not accepted by ECI and the government due to the inherent problems. But these are lesser than those that arise from corporate or black funding of elections. It is therefore imperative on ECI and the government to approve state funding of elections.

HOW THE CENTRE'S PLANNED SANSKRIT UNIVERSITIES WILL FUNCTION?

◎ CONTEXT

- Minister of Human Resource Development introduced 'The Central Sanskrit Universities Bill, 2019' in Rajya Sabha amid continuous disruptions over last week's communal riots in Delhi.

◎ ABOUT

- The Bill is intended to convert India's three deemed-to-be Sanskrit universities:
 - Rashtriya Sanskrit Sansthan, New Delhi
 - Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth, New Delhi
 - Rashtriya Sanskrit Vidyapeeth, Tirupati — into Central Sanskrit Universities.

What the universities will do?

- The proposed central universities will:
 - Disseminate and advance knowledge for the promotion of Sanskrit
 - Make special provisions for integrated courses in humanities, social sciences, and science.
 - Train manpower for the overall development and preservation of Sanskrit and allied subjects.

Powers and functions

- Prescribing courses of study and conducting training programmes
- Granting degrees, diplomas, and certificates
- Providing facilities through a distance education system
- Conferring autonomous status on a college or an institution
- Providing instructions for education in Sanskrit and allied subjects.

University authorities

- Some of the authorities that the universities will have:
 - A court, which will review the policies of the university and suggest measures for its development.
 - An Executive Council, which will be the principal executive body. The 15-member council will include the Vice-Chancellor appointed by the Centre, who will be the chairperson; a joint secretary of the Ministry of Human Resource Development, and two eminent academics from the field of Sanskrit or allied subjects. The council will, among other functions, create teaching and academic posts and their appointment, and manage the revenue and property of the university.
 - An Academic and Activity Council, which will supervise academic policies.
 - A Board of Studies, which will approve the subjects for research and recommend measures to improve standards of teaching.

Visitor of the universities

- Like at all central universities, the President of India will be the Visitor of the central Sanskrit universities.
- He may appoint persons to review and inspect the functioning of the University.
- The Executive Council may take action based on the findings of the inspection.

MEDICAL EQUIPMENT NOTIFIED AS 'DRUGS'

◎ CONTEXT

- From coming April 1 2020, all medical devices sold in the country would be treated as drugs and would be regulated under the Drugs and Cosmetics Act of 1940, the Ministry of Health and Family Welfare notified.

◎ ABOUT

- The Drugs Act was formulated in 1940 in pursuance of recommendations of Chopra Committee constituted in 1930 by the Government of India.
- The Act regulates the import, manufacture and distribution of drugs in India.
- The primary objective of the Act is to ensure that the drugs and cosmetics sold in India are safe, effective and conform to prescribed quality standards.

The notification:

- According to the notification, all medical devices would be treated as drugs in India and they would be regulated under the Drugs and Cosmetics Act, 1940.
- The ministry also released the Medical Devices Amendment Rules, 2020, for mandatory registration of medical devices.
- The aim is to regulate all medical devices so that they meet certain standards of quality.
- Besides, it will also make medical device companies accountable for the quality and safety of their products, a senior official said.
- Notification also read that in pursuance of sub-clause (iv) of clause (b) of Section 3 of the Drugs and Cosmetics Act, 1940, the Central Government, after consultation with the Drugs Technical Advisory Board, hereby specifies the following devices intended for use in human beings or animals as drugs with effect from the April 1, 2020.
- Once notified, the manufacture, import and sale of all medical devices will need to be certified by the Central Drugs Standard Control Organisation (CDSCO).
- Further, once the notification is issued, the CDSCO will also be the nodal authority to investigate complaints related to the quality and safety aspects of medical devices and can suspend the registration or cancel licences of firms.

Devices covered:

- All devices, including instruments, apparatus, appliances and implants, whether used alone or in combination for various purposes like diagnosis, prevention, monitoring, treatment, alleviation of any disease, investigation, replacement or modification or support of the anatomy among others, will be regulated under the legislation.
- At present, only 23 categories of medical devices are regulated under the law.

Past recommendations:

- The country's highest advisory body on technical issues related to drugs and medical devices, the Drugs Technical Advisory Board (DTAB), had in April 2019 recommended that all medical devices should be notified as drugs under the Drugs and Cosmetics Act.

Medical Devices Amendment Rules, 2020, for mandatory registration of medical devices:

- The medical devices referred shall be registered with the central licensing authority via an online portal established by the CDSCO for the purpose.
- The manufacturer of a medical device or any person who imports any medical device will have to upload the information related to that medical device for registration on the "Online System for Medical Devices" established by the CDSCO for this purpose.

- Further, the notification also provides timelines for medical devices that will be notified under the Act, with effect from April 1, 30 months for low and moderate-risk devices (Classes A and B), 40 months for moderately high and high-risk devices (Classes C and D).
- Upon the expiry of these periods, all provisions of the Medical Devices Rules 2017 will apply to the respective devices.

◎ CONCLUSION

- While this is a positive step, as per the timeline, it will still take a long time before many higher-risk devices are regulated.
- Consumer groups remain sceptical about how the CDSCO's current ability to regulate devices under the wider scope. They are varying of CDSCO's competence, expertise and most importantly its commitment towards patient safety given its dismal track record.
- Thereby, the need of the hour is comprehensive reforms to strengthen the regulatory mechanism about patients' safety. These may include guidelines for the approval of devices including clinical investigation requirements, oversight of marketing and promotion, putting in place a robust and functioning system of adverse event reporting accessible to the public, rules for voluntary and statutory recalls, and patient compensation scheme.

PROMOTING TRIBALS OF INDIA

◎ CONTEXT

- To preserve & promote various forms of folk art and culture of the tribals throughout the country including West Bengal, the Government of India has set up seven Zonal Cultural Centres (ZCCs) with headquarters at Patiala, Nagpur, Udaipur, Prayagraj, Kolkata, Dimapur and Thanjavur.

◎ ABOUT

- These Zonal Cultural Centres (ZCCs) organize various cultural activities and programmes all over the country regularly.
- These ZCCs under Ministry of Culture are also implementing several schemes for promoting the folk/tribal art and culture, details of which are as below

Various schemes

- **Award to Young Talented Artists:** The Scheme "Young Talented Artists" is carried out to encourage and recognize the young talents especially in the field of rare art forms. Talented youngsters of the age group of 18-30 years are selected and given a one-time cash award of Rs. 10,000/-.
- **Guru Shishya Parampara:** This scheme envisages transmitting our valued traditions to the coming generations. Disciples are trained under veterans in art forms which are rare and vanishing. Rare and vanishing art forms of the region are identified and eminent exponents are selected to carry out the training programmes in 'Gurukula' tradition. The monthly remuneration for Guru – Rs. 7,500/-, Accompanist – Rs. 3,750/- and Pupils - Rs. 1,500/- each for six months to maximum 1 year for one scheme. The names of the Gurus are recommended by the State Cultural Affairs Departments.
- **Theatre Rejuvenation:** To promote theatre activities including stage shows and Production oriented workshops, etc. Honorarium Up to Rs. 30,000/- per show excluding TA & DA is paid. The groups finalized based on their credentials as well as the merit of the project submitted by them.
- **Research & Documentation:** To preserve promote and propagate vanishing visual and performing art forms including folk, tribal and classical in the field of music, dance, theatre, literature, fine arts etc. in print/ audiovisual media. The art form is finalized in consultation with the state Cultural Department.
- **Shilpgram:** To promote folk and tribal art and crafts of the zone by organizing seminar, workshops, exhibitions, craft fairs, design development and marketing support to the artisans living in the rural areas.

- **Octave:** To promote and propagate the rich cultural heritage of North East region comprising of eight states namely Arunachal Pradesh, Assam, Meghalaya, Mizoram, Sikkim, Nagaland, Manipur and Tripura to the rest of India.
- **National Cultural Exchange Programme (NCEP):** It can be termed as the lifeline of the Zonal Cultural Centers. Under this scheme, various festivals of performing arts, exhibitions, yatras etc are organized in member States. Artists from other zones/states are invited to participate in these programmes. Participation of artists from the Zone in festivals held in other parts of the country is also facilitated. Zonal centres also participate in Major festivals happening in member States by arranging performances during these festivals where a large number of the audience get a chance to enjoy and understand art forms of other regions. These festivals provide an opportunity to taste and understand the various cultures of our country.

About Sahitya Akademi

- Sahitya Akademi, an autonomous organization under Ministry of Culture, encourages the preservation and promotion of languages, especially the unrecognized and tribal languages.
- The Akademi periodically organizes language conventions throughout the country in this regard.

SUSPENSION OF MP FROM LOK SABHA

◎ CONTEXT

- Seven Congress members were suspended for unruly behaviour in the Lok Sabha. The motion was passed by a voice vote.

◎ ABOUT

- The general principle of suspension is that it is the role and duty of the Speaker of Lok Sabha to maintain order so that the House can function smoothly.
- In order to ensure that proceedings are conducted in the proper manner, the Speaker is empowered to force a Member to withdraw from the House (for the remaining part of the day), or to place him/her under suspension.

What are the rules under which the Speaker acts?

- **Rule Number 373** of the Rules of Procedure and Conduct of Business says: "The Speaker, if is of the opinion that the conduct of any Member is grossly disorderly, may direct such Member to withdraw immediately from the House, and any Member so ordered to withdraw shall do so forthwith and shall remain absent during the remainder of the day's sitting."
- To deal with more recalcitrant Members, the Speaker may take recourse to Rules 374 and 374A. **Rule 374 says:**
 - The Speaker may, if deems it necessary, name a Member who disregards the authority of the Chair or abuses the rules of the House by persistently and wilfully obstructing the business thereof.
 - If a Member is so named by the Speaker, the Speaker shall, on a motion being made forthwith put the question that the Member (naming such Member) be suspended from the service of the House for a period not exceeding the remainder of the session: Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.
 - A member suspended under this rule shall forthwith withdraw from the precincts of the House."

What is the procedure for revocation of a Member's suspension?

- While the Speaker is empowered to place a Member under suspension, the authority for revocation of this order is not vested in her.

- It is for the House, if it so desires, to resolve on a motion to revoke the suspension.

The case of Rajya Sabha:

- Like the Speaker in Lok Sabha, the Chairman of the Rajya Sabha is empowered under Rule Number 255 of its Rule Book to “direct any Member whose conduct is in his opinion grossly disorderly to withdraw immediately” from the House.
- Any Member so ordered to withdraw shall do so forthwith and shall absent himself during the remainder of the day’s meeting.”
- The Chairman may “name a Member who disregards the authority of the Chair or abuses the rules of the Council by persistently and wilfully obstructing” business.
- In such a situation, the House may adopt a motion suspending the Member from the service of the House for a period not exceeding the remainder of the session.
- The House may, however, by another motion, terminate the suspension.
- Unlike the Speaker, however, the Rajya Sabha Chairman does not have the power to suspend a Member.

RARE DISEASES DAY

◎ CONTEXT

- **World Rare Disease Day is observed every year on the last day of February. This year, February 29, the rarest of days, is marked as the International Rare Disease Day.**

◎ ABOUT

- Rare Disease Day takes place on **the last day of February each year**. The main objective of Rare Disease Day is to **raise awareness** amongst the general public and decision-makers about **rare diseases and their impact on patients’ lives**.
- The first Rare Disease Day was celebrated in 2008 on 29 February, a ‘rare’ date that happens only once every four years.
- Ever since then, Rare Disease Day has taken place on the last day of February, a month is known for having a ‘rare’ number of days.

What is Rare Disease?

- A rare disease also referred to as an orphan disease, is any disease that affects a small percentage of the population.
- Over 300 million people are living with one or more of over 6,000 identified rare diseases around the world.
- Over 6000 rare diseases are characterised by a broad diversity of disorders and symptoms that vary not only from disease to disease but also from patient to patient suffering from the same disease.
- Relatively common symptoms can hide underlying rare diseases leading to misdiagnosis and delaying treatment.
- Quintessentially disabling, the patients quality of life is affected by the lack or loss of autonomy due to the chronic, progressive, degenerative, and frequently life-threatening aspects of the disease.
- Each rare disease may only affect a handful of people, scattered around the world, but taken together with the number of people directly affected is equivalent to the population of the world’s third-largest country.

Items for Box:

- Rare diseases currently affect 3.5% - 5.9% of the worldwide population.
- In India, one in one lakh people suffer from some rare disease.
- 72% of rare diseases are genetic whilst others are the result of infections (bacterial or viral), allergies and environmental causes, or are degenerative and proliferative.
- 70% of those genetic rare diseases start in childhood.

What causes rare diseases?

- There are many different causes of rare diseases. The majority are thought to be genetic, directly caused by changes in genes or chromosomes.
- In some cases, genetic changes that cause disease are passed from one generation to the next.
- In other cases, they occur randomly in a person who is the first in a family to be diagnosed.
- Many rare diseases, including infections, some rare cancers, and some autoimmune diseases, are not inherited.
- The most common rare diseases identified in India are **Haemophilia, Thalassemia, Sickle-cell Anaemia, Primary Immuno Deficiency, Lysosomal Storage Disorders such as Gaucher Disease, Fabry Disease, Hunter Syndrome and Pompe's Disease.**

◎ CHALLENGES

- **Lack of knowledge:** The lack of scientific knowledge and quality information on the disease often results in a delay in diagnosis.
- **Misdiagnosis:** As mentioned, due to the broad diversity of disorders and relatively common symptoms which can hide underlying rare diseases, initial misdiagnosis is common. In addition, symptoms differ not only from disease to disease but also from patient to patient suffering from the same disease.
- **Social and financial burden:** Also the need for appropriate quality health care engenders inequalities and difficulties in access to treatment and care. This often results in heavy social and financial burdens on patients.
- Building awareness of rare diseases is so important because 1 in 20 people will live with a rare disease at some point in their life. Rare Disease Day improves knowledge amongst the general public of rare diseases while encouraging researchers and decision-makers to address the needs of those living with rare diseases.

SCIENTISTS DISCOVER ANIMAL THAT DOESN'T BREATHE OXYGEN

◎ CONTEXT

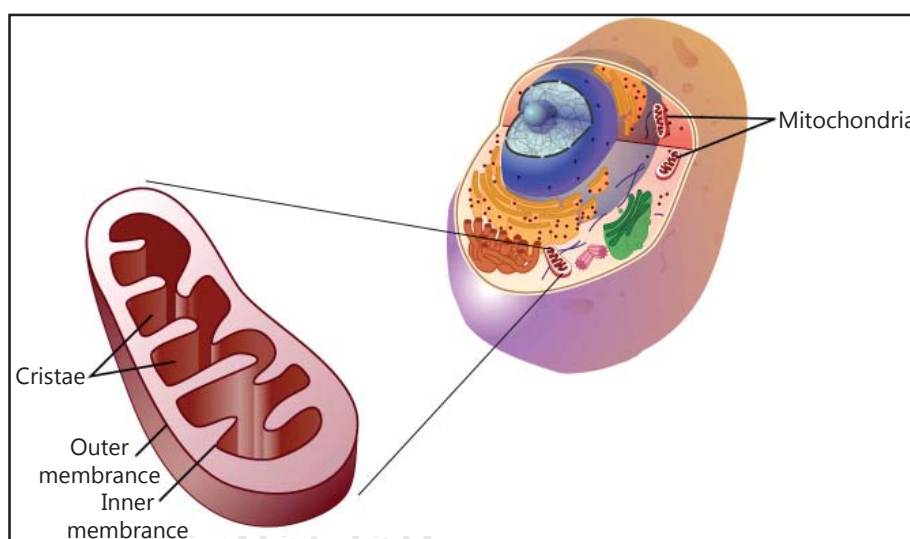
- Scientists at Tel Aviv University have discovered a jellyfish-like parasite that doesn't need oxygen because it doesn't breathe. Its life is entirely free of dependency on oxygen.

◎ ABOUT

- The discovery was made by accident as the team was sequencing the genome of a common salmon parasite called **Henneguya salminicola**.
- When they searched for a **mitochondrial genome**, they didn't find anything.
- The discovery has enormous ramifications for not just one's understanding of life on Earth, but also for astrobiology and one's search for non-oxygen dependent life forms on other astronomical objects, possibly within the solar system.

What is Mitochondria?

- Mitochondria are organelles that trap oxygen and help to break it down to provide energy for the cell.
- Mitochondria are membrane-bound cell organelles (mitochondrion, singular) that generate metabolic energy in eukaryotic cells needed to power the cell's biochemical reactions.
- Chemical energy produced by the mitochondria is stored in a small molecule called **adenosine triphosphate (ATP)**.
- Mitochondria contain their small chromosomes. Generally, mitochondria, and therefore mitochondrial DNA, are inherited only from the mother.



What if, mitochondria are not present?

- The presence of mitochondria helps in harnessing oxygen and breaking it down for energy. Then, life took a dramatic turn and erupted.
- Unlike bacteria, all eukaryotic cells have mitochondria.
- Every cell in every plant or animal contains mitochondria, which generates fuel for the cell to burn and obtain energy.
- The lack of mitochondria implies that the animal does not use oxygen to function, as no other organelle or process in a cell is capable of breaking it down.
- It is not entirely known how the creature (parasite) obtains energy. It may be possible that it does so by absorbing molecules from the salmon that already produces energy.
- There are known organisms who have adapted to thrive in a low oxygen environment but until this study, whether there have been animals that don't use oxygen has been a question that hadn't been answered.

Aerobic respiration:

- Aerobic respiration is a chemical reaction that transfers energy to cells.
- Plants and animals transport glucose and oxygen to tiny structures in their cells, called mitochondria.
- Here, glucose and oxygen take part in a chemical reaction.
- The reaction is called **aerobic respiration**, and it produces energy which transfers to the cells.
- The waste products of aerobic respiration are carbon dioxide and water.

The parasite

- Henneguya salminicola is a myxozoan cnidarian — a type of animal-related to jellyfish and coral.
- It consists of less than 10 cells in its being. It lives inside salmon's muscles and leeches energy off its host. But it is not a harmful parasite, it can live the fish's entire life inside it.
- The environment inside its host is almost entirely free of oxygen. This meant that it didn't need the mitochondria anymore once it found another way to adapt. It dropped its mitochondrial genome entirely, so as to save energy and not copy genes for multiplication. It gave up breathing.

Significance of the discovery:

- The discovery indicated that evolution can go in strange directions. It also brings into question the definition of 'animal' itself as breathing in oxygen is a part of it.
- The findings indicate that there might be many more such animals to be found that counter our understanding of life.

VARIOUS MILITARY EXERCISES**◎ CONTEXT**

- Indian Armed Forces conduct/participates in various bilateral and multilateral military exercises with foreign countries.

◎ ABOUT

- The Exercises

Sl. No.	Country	Exercise
1.	Australia	Ex AUSTRA HIND, Ex AUSINDEX, EX PITCH BLACK
2.	Bangladesh	Ex SAMPRITI, IN-BN CORPAT, IN-BN BILAT, IN-BN SF EXERCISE, TABLE TOP EX, SAMVEDNA
3.	Brazil & South Africa	IBSAMAR
4.	China	Ex HAND IN HAND
5.	Egypt	Ex CYCLONE
6.	France	Ex SHAKTI, Ex VARUNA, GARUDA
7.	Indonesia	Ex GARUDA SHAKTI, IND-INDO CORPAT IND-INDO BILAT
8.	Israel	Ex BLUE FLAG
9.	Japan	Ex DHARMA GUARDIAN, Ex JIMEX
10.	Kazakhstan	Ex KAZIND
11.	Kyrgyzstan	Ex KHANJAR
12.	Malaysia	Ex HARIMAU SHAKTI, Ex IN-RMN BILAT, HOP EX
13.	Maldives	Ex EKVURIN, EX EKATHA
14.	Mongolia	Ex NOMADIC ELEPHANT
15.	Myanmar	Ex IMBEX, IMCOR, IN-MN BILAT, TABLE TOP EX
16.	Nepal	Ex SURYA KIRAN

17.	Oman	Ex AL NAGAH, NASEEM-AL-BAHR, Ex EASTERN BRIDGE
18.	Qatar	ZA'IR AL BAHR
19.	Russia	EX INDRA, EX AVIAINDRA
20.	Seychelles	Ex LAMITIYE
21.	Singapore	SIMBEX, JOINT MILITARY TRAINING
22.	Sri Lanka	Ex MITRA SHAKTI, SLINEX, IN-SLN SF Ex, SAMVEDNA
23.	Thailand	Ex MAITREE, INDO-THAI CORPAT, Ex SIAM BHARAT
24.	UAE	DESERT EAGLE
25.	UK	Ex AJEY WARRIOR, KONKAN, INDRADHANUSH
26.	USA	Ex YUDHABHAYAS, Ex VAJRA PRAHAR, SPITTING COBRA, SANGAM (IN-USN EOD Ex), RED FLAG, Ex COPE INDIA
27.	Uzbekistan	Ex DUSTLIK
28.	Vietnam	VINBAX, IN-VPN BILAT
29.	Multilateral	BIMSTEC
30.	Multilateral	AFINDEX
31.	Multilateral	MEDEX
32.	Multilateral	SCO - PEACE MISSION
33.	Multilateral	Ex TSENTR
34.	Multilateral	CORMORANT STRIKE
35.	Multilateral	KHAAN QUEST
36.	Multilateral	COBRA GOLD
37.	Multilateral	ADMM Plus Exercises
38.	Multilateral	BLACK CARILLION
39.	Multilateral	KAKADU
40.	Multilateral	KOMODO
41.	Multilateral	IONS WORKING GROUP EXERCISES
42.	Multilateral	EOD J2A
43.	Multilateral	MARISX
44.	Multilateral	MALABAR
45.	Multilateral	RIMPAC
46.	Multilateral	CUTLASS EXPRESS
47.	Multilateral	SALVEX
48.	Multilateral	SEACAT
49.	Multilateral	SITMEX
50.	Multilateral	MILAN
51.	Multilateral	WPNS Exercises

Significance of military exercises:

- In the domain of international relations, military diplomacy has, in recent years, emerged as a major tool to further diplomatic interests of nations. Participation in international level military exercises is an indication of the highest level of trust and confidence between the member nations.
- It is a key confidence-building measure (CBM) and an indication of the faith reposed by India on another nation or a group of member nations.
- On the operational side, military exercises enable militaries to understand each other's drills and procedures, overcome language barriers, and facilitate familiarisation with equipment capabilities.
- Perhaps, the most important advantage of joint military exercises is 'strategic signalling'. A joint exercise with one or more nations serves the purpose of signalling to a third country of the influence we have in the region and a demonstration of our resolve to further our diplomatic objectives.

EKAM FEST TO PROMOTE CRAFTSMANSHIP & PRODUCTS OF DIVYANG ARTISANS & ENTREPRENEURS

◎ CONTEXT

- The week-long Exhibition-cum-Fair "EKAM Fest" organized by National Handicapped Finance Development Corporation (NHFDC) under M/o Social Justice & Empowerment began.

◎ ABOUT

- Fest is hosting several activities like cultural extravaganza including performances by Divyang artists and well-known professionals.
- It is an effort for promoting entrepreneurship and knowledge among Divyangjan community, generating awareness among society about potentialities of PwDs & providing a major marketing opportunity to PwDs entrepreneurs.
- NHFDC is making efforts for the development of a brand and platform for the marketing of products of these determined entrepreneurs.
- Accordingly, the name of the brand has arrived at Ekam (Entrepreneurship, Knowledge, Awareness, and Marketing).
- The word Ekam also represents the inclusiveness, oneness and unity which appropriately describe the efforts being put in by NHFDC to develop the marketing platform and aggregation of the products through the promotion of entrepreneurship, knowledge sharing, Awareness creation and marketing initiatives amongst the Divyangjan.
- It is an opportunity for all to encourage these products made with extraordinary determination by the divyang crafts persons and entrepreneurs.
- Since women have contributed a lot in the embroidery work, NHFDC should encourage Divyangjan, especially women Divyangjan for entrepreneurship in this sector so that Divyangjan may get employment and self-employment.

The new initiatives of NHFDC launched in Fest are as follows

- **NHFDC Swavalamban Kendra (NSK):** NHFDC has taken an initiative to establish PWD owned micro skill training Centers throughout the country for skill training of PwDs. These NSKs will have the capacity to provide quality skill training to around 120 PwDs per year NSK. The PwD owner of the NSK is expected to earn around Rs 20,000 per month.
- **Safe Cabs in Delhi and Indore:** NHFDC has arranged with Sakha Cabs where the PwD owned commercial vehicles will be driven by the Women drivers to provide safe taxi option for the women, children and senior citizen commuters. Such Safe cabs are already in operation at New Delhi and Indore Airport. The vehicles here are financed by NHFDC under its scheme.

- **Safe Drinking Water E Carts:** NHFDC has recently agreed to finance E-carts fitted with RO water dispensing vending machines. These carts will sell water in paper glasses maintaining hygiene. The carts will be supported in operation by Bharat Jal. The PwD owner is expected to earn Rs 10,000/- to Rs 15,000/- per month in the operation of these carts.

About NHFDC

- NHFDC is an Apex corporation under the aegis of Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of Social Justice & Empowerment and is working since 1997.
- It is registered as a company, not for profit and provides financial assistance to the Divyangjan/Persons with Disabilities (Divyangjan/PwDs) for their economic rehabilitation and provides several skill development programmes to empower them to grow & sustain their enterprises.
- To empower the Divyang and marginalized groups of the society more closely, NHFDC has taken a step forward and established the NHFDC Foundation, this year.
- Recognizing the absence of a connect with the market which hinders fair prices and volumes in the sale of the unorganized tiny Divyang entrepreneurs, NHFDC Foundation is making efforts for the development of a brand and platform for marketing of products of these determined entrepreneurs.

MISCELLANEOUS

CURRENT AFFAIRS

DECCAN QUEEN EXPRESS

- The Deccan Queen Express is set to get a makeover with the railways upgrading it with the German-design Linke Hofmann Busch (LHB) coaches, a new livery and a brand new logo.

About Deccan Queen Express:

- Deccan Queen, which has been running between Mumbai and Pune since 1930, is the country's first superfast train, first long-distance electric-hauled train, first vestibuled train, the first train to have a "ladies only" car and the first train to feature a dining car.
- The 90-year-old train is now proposed to be upgraded with the German-design Linke Hofmann Busch (LHB) coaches. LHB coaches have better safety features and offer an improved travelling experience - better suspension system and better riding comfort.
- Secondly, there is a proposed revamp of the external livery design of the train, which will be used in the proposed LHB rake of the train.

EURASIAN OTTER FOUND IN CHILIKA LAKE

- Researchers conducting a study in Odisha's Chilika Lake have found the presence of a viable, breeding population of a fishing cat in the brackish water lagoon.

About Eurasian Otter:

- The Eurasian otter is an elusive, solitary otter that has one of the widest distributions of all Palearctic mammals, from Ireland to China and down to South-east Asia.
- Notwithstanding its large range, its population is declining in many countries in which it is not protected and in others its status is unknown.
- It is a globally endangered species that is elusive and found in very few places in the south and south-east Asia.

IWD 2020: THINLAS CHOROL

- In Ladakh, a young woman **Thinlas Chorol** has introduced **woman trekking guide** in the male-dominated trekking industry.
- To train the other women as a trekking guide, she set up the first women's travel company fully operated by women only.
- Every trekking season from April to September, she trains 20 to 30 rural women to work as a trekking guide.
- She conducts trekking through homestays in rural areas, which has also become a source in empowering rural women economically as the homestay is run by women.
- Homestay is an accommodation option for tourists and trekkers in which the guests are allowed to stay at their home.
- Recognizing her pioneering works in transforming rural women through trekking and entrepreneurs, Government of India has awarded her with **Nari Shakti Puraskar and Women Transforming India**.

JEEVAN KAUSHAL CURRICULUM

- The **University Grants Commission (UGC)** has developed **life skills (Jeevan Kaushal) curriculum** for **undergraduate students** at Universities and Colleges.

- This Curriculum covers the courses on **communication skills, professional skills, leadership & management skills and universal human values**.
- The Jeevan Kaushal curriculum is **suggestive**.
- The **UGC has requested Vice-Chancellors of all Universities** to consider the curriculum for introduction in Universities and affiliated Colleges/institutions at the undergraduate level.
- The **objectives of the Jeevan Kaushal curriculum** are:
 - to **enhance one's ability to be fully self-aware by helping oneself** to overcome all fears and insecurities and to grow fully from inside out and outside in;
 - to **increase one's knowledge and awareness of emotional competency and emotional intelligence** at the place of study/work;
 - to **provide an opportunity for realising one's potential** through practical experience;
 - to **develop interpersonal skills and adopt good leadership behaviour** for the empowerment of self and others;
 - to **set appropriate goals**, manage stress and time effectively; and
 - to **manage competency-mix at all levels** for achieving excellence with ethics.

‘MAC-BINDING’, A REQUIREMENT FOR ACCESSING THE INTERNET IN J&K

- Months after the ban on social media was imposed in Jammu and Kashmir following the revocation of Article 370, the administration on March 4 restored the use of social media in the valley. However, the internet can be accessed in J&K through Mac binding process.

What is mac-binding?

- MAC (Media Access Control) binding is a process where a user's system MAC address and IP address are bonded to allow internet access.
- Through this process, a request from a particular machine which has its MAC address and IP address bonded will be accepted.
- It means that one can only open websites that have been allowed by the administration using a system which has its MAC and IP address bound, rests will be dropped.
- The internet facility was snapped across Jammu and Kashmir on August 5 last year, the day when Centre abrogated the special status to the erstwhile state and bifurcated it into two union territories.

NATIONAL LALIT KALA AKADEMI AWARDS

- **Lalit Kala Akademi's 61st annual awards** shall be conferred by the President of India Shri Ram Nath Kovind to 15 artists on March 4th, 2020.
- The Akademi **nominated seven-member selection Jury of eminent art practitioners, artists and critics** from all over the country to finalise the list of artists to be awarded from among 283 artworks selected by the first tier Jury.
- Lalit Kala Akademi the **National Academy of Arts** is an institution that has rendered service to the arts in the nation long before the **world woke up to the global impact of Indian Art**.
- Lalit Kala Akademi, National Academy of Art, New Delhi was **set up by the Government of India as an autonomous body, on 5th August 1954**.
- The Akademi was **given statutory authority in 1957**, under the Societies Registration Act 1860.

OFFSHORE PATROL VESSEL ICGS VARAD COMMISSIONED

- L&T-built Offshore Patrol Vessel ICGS Varad has been commissioned into the Indian Coast Guard (ICG).

The Vessel:

- ICGS Varad was commissioned into the ICG by Minister of State for Shipping Mansukh Mandaviya at L&T Kattupalli shipyard, near Chennai.
- ICGS Varad set a record in Indian shipbuilding industry by becoming the first major defence ship to clear all sea acceptance trials in a single sea sortie, Larsen & Toubro (L&T) said in a regulatory filing.
- The vessel is fifth in the series of seven offshore patrol vessels contracted by the Defence Ministry on the company in March 2015.

SWAP RATIO

- With the March-end deadline for the biggest-ever amalgamation scheme is approaching, eight state-owned banks announced swap ratios for the proposed mergers.

What is Swap Ratio?

- Swap ratio is an exchange ratio used in case of mergers and acquisitions.
- It is the ratio in which the acquiring company offers its shares in exchange for the target company's shares.

Merger of Banks:

- According to the mega consolidation plan, OBC and UBI will merge into PNB; Syndicate Bank into Canara Bank; Andhra Bank and Corporation Bank into Union Bank of India; and Allahabad Bank into Indian Bank.
- After the mergers, there will be seven large public sector banks (PSBs) and five smaller ones.

SCOTLAND POISED TO BECOME 1ST COUNTRY TO MAKE PERIOD PRODUCTS FREE

- Scotland is now a big step closer to becoming the first country in the world to make tampons and pads free to anyone who needs them.
- The Bill defines period products as the "means manufactured articles the purpose of which is to absorb or collect menstrual flow".

The Bill:

- The legislation would create the legal obligation for the Scottish government to make sure period products are available for free for those who need them.
- If the Bill is passed into law, one of its central objectives is to "end the silence and stigma" that surrounds menstruation and also aims to remove "gendered barriers".
- One of the primary aims of the Bill is to ensure that those who menstruate have "reasonably convenient" access to period products free of charge.
- Essentially, the Bill places a duty on Scottish ministers to ensure that period products are made available free of charge on a universal basis. It also requires education providers to make period products available free of charge in on-site toilets.

‘UNLABEL INDIA’ INITIATIVE

- **Instagram launched the ‘Unlabel India’ initiative** in Hyderabad, which focuses on nurturing a safe and supportive community online.
- The app has **partnered with Yuva**, known for its purpose-driven content, to initiate the initiative in a phased manner.
- The **first phase includes a roadshow to 20 cities and 50 colleges**, where young Indians will be encouraged to speak up on issues such as mental health, bullying, safe spaces and gender sensitivity.
- The next phase will be about having a sustained engagement with the colleges through **‘kindness clubs’, ‘kindness ambassadors’ and targeted digital initiatives**.

UN SECURITY COUNCIL

- **China has taken over as president of the UN Security Council for March 2020**, pledging to promote solidarity and cooperation in this capacity.
- The Security Council was **established by the UN Charter**. Its primary responsibility is to work to **maintain international peace and security**.
- The council has **15 members**: the **five permanent members** (the United States, the United Kingdom, Russia, France and China) and **10 non-permanent members elected for two-year terms**.
- The council’s **presidency is a capacity that rotates every month among its 15 members**.
- **Vietnam held the Presidency in January 2020**, followed by Belgium in February 2020. After China, the Presidency of the UNSC will go to the **Dominican Republic in April 2020**.
- The **presidency** of the UN Security Council is **rotated among its members every month according to the English alphabetical order**.
- The **UNSC was formed in 1945** and held its first session on January 17, 1946. It was **created after the Second World War** to address the failure of the previous international organization, the League of Nations to maintain world peace.

WORLD HEARING DAY

- World Hearing Day is held on **3 March each year** to raise awareness on how to prevent deafness and hearing loss and promote ear and hearing care across the world.
- World Hearing Day held each year by the **Office of Prevention of Blindness and Deafness** of the **World Health Organization (WHO)**.
- The **first event was held in 2007**. Before 2016, it was known as **International Ear Care Day**.
- The **theme** for World Hearing Day **2020**: **‘Hearing for life. Don’t let hearing loss limit you’**.
- The **theme** of the campaign for **2019** was **“Check your hearing”**.
