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GS 1 : Heritage and culture ,Geography of the World and Society

1. Centre to review list of monuments under ASI (GS-1)

Context:

Review of the monuments under the Archaeological Survey of India (ASI).

Details:

- The Central Government is planning a review of the monuments under the Archaeological Survey of India (ASI) and the ones protected by the State governments.
- At present, **3,691 monuments are protected by the ASI throughout India. Uttar Pradesh has the highest number** of protected monuments at 745.
- The number of monuments under the Centre's protection could increase. The list of centrally protected monuments can go up to 10,000. The important sites under the State governments could be added to the list.
- There is also the proposal for some monuments to be removed from the Central list and be placed under the State governments.
 - **The removal of some sites from the Central list would allow development works in their vicinity.**
 - There is a ban on construction within 100 metres of a centrally protected monument and regulated construction within 100-200 metres under the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**. The Act protects monuments and sites that are over 100 years old.

2. 34 queries in Census 2020 form (Prelims / GS-1)

Context:

The Registrar General of India (RGI) has asked all States to "give highest importance, attention and time" to the Census and National Population Register (NPR) work as "the foundations of the statistics of the country" depend on them.

Details:

- The decennial census exercise will be conducted in two phases – House Listing and Housing Census from April to September 2020 and Population Enumeration from February 9 to February 28, 2021.
- Centre has proposed that the next phase of NPR will be conducted along with the first phase of Census between April to September 2020.

- The pretest or the trial NPR form collected details from 30 lakh respondents in 2019 on 21 parameters, seeking specific details on “place of birth of father and mother, last place of residence” along with other information like Aadhar (optional), voter ID card, mobile phone and driving license numbers.
 - The new NPR form, for the first time, is also expected to collect information on “mother tongue”.
 - In 2010 and 2015, NPR collected details on 14 parameters.
- There are 34 questions in Census proforma and 14 questions in the NPR. The exercise will be conducted through a web based mobile application. NPR is only being updated, no new register is being created.

Issues:

- Many State governments have objected to new fields in NPR such as “the place of birth of parents” as sometimes in villages and even in cities people are not aware about their own place of birth.
- West Bengal government has demanded repeal of CAA and NPR, and Kerala communicated to the RGI that NPR should be halted citing maintenance of public order.

3. Greek Island of Lesbos



- **Lesbos, also called Mitilini, is a greek island.**
- It is the largest island after Crete and Euboea in the **Aegean Sea**.
- The island is largely volcanic in the west, and numerous thermal springs indicate the unstable subterranean structure that has caused severe earthquakes throughout history.

- The irregular coast of Lésbos is penetrated by **two narrow-mouthed bays**, Géras (southeast) and the Gulf of Kallonís (southwest).
- The principal peak is **Mount Lepethymnus** (ÁyiosIlías) which reaches 3,176 feet.

4. Centre working on exclusive body for river-linking projects (GS-1)

Context:

The Central government is working on the establishment of an exclusive body to implement projects for linking rivers.

Details:

- The exclusive body for implementation of projects for linking rivers would be called the **National Interlinking of Rivers Authority (NIRA)**.
- The proposed body is expected to take up both inter-State and intra-State projects.
- It will also make arrangements for generating funds, internally and externally.
- Once approved, the projects will be pursued as national projects, wherein the Centre will absorb 90% of the cost and the States concerned the rest.

Inter-Linking of Rivers (IRL) Projects:

- As of now, six ILR projects – the Ken-Betwa, Damanganga-Pinjal, Par-Tapi-Narmada, Manas-Sankosh-Teesta-Ganga, Mahanadi-Godavari and Godavari-Cauvery (Grand Anicut) – have been under examination of the authorities.
- With regard to the peninsular rivers, the Centre has chosen to focus on the Godavari-Cauvery link than the earlier proposal to link the Mahanadi-Godavari-Krishna-Pennar-Cauvery Rivers. The latter has eluded consensus, given reservations from Odisha.

Note:

- National Water Development Agency (NWDA), which is responsible for the formulation of proposals of the linking of rivers, has said that an updated draft Cabinet note has been circulated to other Ministries in the Central government.
- On receipt of comments, the note will be finalised by the Ministry of Jal Shakti and sent to the Union Cabinet for approval.
- No specific timeline has been determined for the constitution of the Authority.

5. Heat stress may impact over 1.2 billion people annually by 2100: study (GS-1)

Context

- According to research as published in the journal Environmental Research Letters, heat stress from extreme heat and humidity will **annually affect areas now home to 1.2 billion people by 2100**, assuming current greenhouse gas emissions.

What is Heat Stress?

- Heat stress is caused by the body's inability to cool down properly through sweating. It happens when the body's means of controlling its internal temperature starts to fail.
 - The body reacts to heat by increasing the blood flow to the skin's surface, and by sweating. This results in cooling as sweat evaporates from the body's surface and heat is carried to the surface of the body from within by the increased blood flow.
- It occurs when the body cannot get rid of excess heat.
- When this happens, the **body's core temperature rises and the heart rate increases**.

What are the effects of heat stress?

Typical symptoms are:

- Body temperature can rise rapidly, and high temperatures **may damage the brain and other vital organs**.
 - an inability to concentrate
- muscle cramps
- heat rash
- fainting
- heat exhaustion – fatigue, giddiness, nausea, headache, moist skin
- Heatstroke – hot dry skin, confusion, convulsions and eventual loss of consciousness.

What does the report say?

- This is more than four times the number of people affected today and more than 12 times the number who would have been affected without industrial-era global warming
 - Annual exposure to extreme heat and humidity in excess of safety guidelines is projected to **affect areas currently home to about 500 million people** if the planet warms by 1.5 degrees Celsius, and **nearly 800 million** at 2 degrees Celsius

- An estimated **2 billion people** would be affected with 3 degrees Celsius of warming

It not only harms the health of humans but its impact is felt on agriculture, economy, and environment.

6. Arunachal Pradesh tribes revive indigenous lockdown rituals (GS-1)

Why in News

Tribes in Arunachal Pradesh have revived indigenous lockdown rituals to contain the spread of **COVID-19**.

- The State of Arunachal Pradesh is geographically closest to **China's Hubei province** where the COVID-19 outbreak began.

Rituals by Different Tribes

Galos Tribe

- The **Galos**, which are one of the 26 major tribes of Arunachal Pradesh that dominate West Siang district practised the **Arr-Rinam ritual**.
 - The Galo community has been recognized as a **Scheduled Tribe** in the Amendment to the Constitution (ST), Order, 1950, Part-XVIII.
 - **Mopin** is the main festival in Galos which is celebrated for the prosperity of the villages. The Galos perform **Popir dance**.
- **Arr-Rinam** is the Galo equivalent of **lockdown** imposed by consensus for 48 hours whenever an epidemic strikes.
- The Arr-Rinam follows the **Ali-Ternam** (the word Ali means epidemic and Ternam means forestall) ritual **to ward off an epidemic**.
- These rituals were last performed almost four decades ago when a water-borne disease had affected many members of the community.
- However, these rituals have been performed periodically for **livestock, primarily the semi-wild animal mithun, that are prone to contagious diseases**.
- This is for the **first time in 30-40 years** that the rituals were performed for the **safety of humans**.
- The **Bos or deputy priests** performed the Ali-Ternam under the guidance of a **Nyibo (shaman)**.
- The ritual **ended with the community leaders sealing five major entry points of the district**.

Adi Tribe

- The Adi community also performed a similar ritual called the **motor or pator system** in the Adi (tribe) dialect.
- This is a customary **self-restriction**, where the locals lock down several villages by **erecting barricades** to prevent the entry of outsiders. No person is allowed to enter or leave the villages.
- They believe that this ritual lets shamans with legendary powers to locate wild herbs to combat an epidemic.

Note:

- The Adi tribe of Arunachal Pradesh is believed to have come from southern China in the 16th century.
- They are the **Tibeto-Burman language** speaking population..
- They reside in the far north inhabiting **East Siang and Lower Dibang Valley districts** of Arunachal Pradesh.
- The Adis are experts at **making cane and bamboo items**.
- **Solung** (harvesting festival where animal sacrifices and rituals are performed) and **Aran** (a hunting festival where all the male members of the family go for hunting) are two major festivals of the Adi tribes.

Nyishi Tribe

- In districts such as Papum Pare and East Kameng, the dominant Nyishi community observed **Arrue** involving **self-quarantine**.
- Nyishi Tribes also called **Bangni** are the tribal people of eastern Bhutan and Arunachal Pradesh (formerly North East Frontier Agency).
- Nyishi is a **Scheduled Tribe**. It is the **single largest tribe of Arunachal Pradesh**.
- They speak the **Tibeto-Burman language of the Sino-Tibetan family**.
- The Nyishi support themselves with **slash-and-burn agriculture and with hunting and fishing**.
- They live together in a longhouse without partitions but with a separate fireplace for each conjugal family.
- Aside from a patrilineal household there is **no formal social organization or village government**.
- Their religion involves **belief in spirits associated with nature**.

7. Short end of the stick (GS-1)

Context:

- Hardship faced by the migrant labourers in the light of the lockdown.

Background:

- The lockdown measures have been in place to slow down the spread of SARS-CoV-2. The measures taken to address the public health challenge have also led to a **humanitarian crisis** for many among the **poorer segments of India's urban population**.
- The most affected section due to the lockdown has been the **inter-State migrant worker community**.
- Thousands of these migrant labourers have been leaving cities, even on foot, for their towns in Uttar Pradesh, Madhya Pradesh, Bihar and elsewhere.

Details:

Vulnerability of the migrant workers:

Livelihood opportunities:

- The migrant workers are largely **dependent upon casual and daily wage labour** and unorganized retail.
- The lockdown would severely **affect their livelihood opportunities**.
- Citing the uncertainty of employment, and therefore of money and resources, these migrant labourers sought the **comfort of the social net in their towns** and wanted to return back.

Lifestyle:

- Most of the migrant workers **live in cramped spaces** where it would be difficult to maintain physical distancing.
- The **lack of hygiene and sanitation facilities** makes this section highly vulnerable to such epidemics.

Primary breadwinners:

- An analysis of the migration trend shows that a major portion of the **rural-urban migration** constitutes the migration of men to cities in search of better employment opportunities.
- They are generally **the primary breadwinners**, and the survival of their families back home is entirely dependent on these migrant labourers. The anxiety of being affected by the virus drove many to return to their families.

Criticism of government policy:

Short notice:

- The Central government announced the lockdown with just a **four-hour notice**, making it even harder for the migrant labourers to figure out ways to face the challenge of a lockdown.

Lack of understanding:

- **The lockdown has a disproportionate impact on the socioeconomic conditions of the poor and unorganized sector.**
- The **lack of social security** among the poor makes it difficult for them to practise social distancing. They are mostly dependent upon daily and even hourly wage earnings. The lockdown would lead to an income security challenge to them.

Lack of planning:

- There have been suggestions that given the prior warnings of COVID-19, the situation could have been handled much better. There have been concerns that the decision was arbitrary, **unplanned and ill-prepared.**
- The lockdown was not accompanied by practical and necessary relief measures.

Lack of support from government:

- The movement of the labourers towards their hometowns was not aided by the government.
- There have been some sections which have argued that if the government was willing to evacuate Indians from other countries, why similar intent is not being shown to make sure that the poor migrant labourers reach their hometown.

Counter arguments:

- The need for a very short notice before lockdown was considered essential given the fact that a **larger time lag would lead to large scale movement of people** and make it difficult to contain the spread of the epidemic.
- The decision for a lockdown at the earliest was considered necessary given the **examples of other countries like Italy and Spain** where a delay in lockdown had substantially increased the number of cases. The intention was to announce the lockdown and then taken necessary actions for easing the pressure on the citizenry.
- **The first priority during such a crisis has to be tackling the health challenge,** which can be followed by other measures. **The economic package** by the government in the form of the Garib Kalyan Yojana was directed at easing the pressure on the vulnerable.
- Given the **daunting scale of tracking** that would be required if the migration was allowed, the government chose not to allow migration of the labourers to their hometowns. The **possible spread of the virus in the rural hinterlands** would be beyond the carrying capacity of the Indian health system.

Steps being taken:

- The Union Home Ministry has directed State and Union Territory governments to enforce the lockdown strictly and prevent migrants from leaving cities.

- The Ministry of Home Affairs (MHA) has issued orders to **stop the home-bound and quarantine them for 14 days.**
- It has issued notices to States to **open highway relief camps with essentials** for the stranded poor, while observing physical distancing norms.

Way forward:

For the stranded migrants:

- The proposed **quarantine camps must be well equipped with sufficient supplies of essential items for all.**
- Governments must use schools and college hostels for the migrants to stay and also utilize the Public Distribution System to provide food.
- Governments must show resolve, **commitment, and compassion** to deal with the migrant crisis.
- **Civil society must come forward and support** the most vulnerable.

For the migrant's en route to their hometowns:

- For the migrants already en route to their places, there should be **proper screening en route** and they should be informed of the **practical health protocols** to be practiced during the first 14 days.
- These migrants need to be put **under observation**, further screening, isolation, testing, and quarantine where required.
- The affected families also have to be given **minimum guarantees of food, health, and some income** by the government during the lockdown.

GS 2 : Polity, Governance, International Relations

1. Why is COVID-19 not a pandemic yet?

Context:

The global spread of the **novel coronavirus (SARS-CoV-2)**

Background:

- A pandemic is defined as the worldwide spread of a new disease.
- **The last pandemic reported was in 2009 with the H1N1 flu**, which killed hundreds of thousands globally. Unless it is influenza, WHO generally avoids declaring diseases as pandemics.

- According to the 2017 pandemic influenza risk management guidelines, WHO uses four pandemic influenza phases, namely the 'interpandemic', 'alert', 'pandemic' and 'transition' phases, to reflect the **risk assessment** regarding each influenza virus.

Details:

The global spread of the novel coronavirus:

- The COVID-19 outbreak began in China on December 8, 2019, and China remained the most affected in terms of the number of infections and fatalities.
- For the last few days, the number of confirmed cases reported daily from mainland China has come down even as the spread of the virus has seen a sudden increase outside the country. Recently, the number of novel coronavirus (SARS-CoV-2) cases reported in a single day was more outside mainland China than within the country.
- **Outside China, South Korea has the most number of confirmed novel coronavirus infections.** Italy (889), Iran (593) and Japan (241) are the other countries with the most number of cases.
- As on February 29, 5,233 confirmed cases have been **reported from 60 countries**. Except for Antarctica, the novel coronavirus cases have been reported from all continents.
 - At 28, Europe has the most number of countries that have reported at least one case.
 - Thirteen countries of the WHO West Pacific region including mainland China, Hong Kong, Macau, Taiwan, South Korea, Japan, Singapore, Malaysia, Australia, Vietnam, Cambodia, Philippines and New Zealand have reported at least one case.
 - 10 countries in the WHO Eastern Mediterranean Region including Iran, the United Arab Emirates, Afghanistan, Pakistan, Egypt, Iraq, Kuwait, Lebanon, Oman, and Bahrain, have reported novel coronavirus infections.
 - Only five countries in the WHO South-East Asia region have reported SARS-CoV-2 infections. These being Thailand, India, Sri Lanka, Nepal and Taiwan.
 - In the Americas, cases have been reported from Canada, the U.S., Brazil, and Mexico.

The World Health Organization's stand:

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- On February 26, WHO Director-General made it clear that **WHO will not declare COVID-19 a pandemic, for the time being**, arguing that the usage of the word pandemic carelessly had no tangible benefit, but would,

on the contrary, have significant risks associated with it, in terms of **amplifying unnecessary and unjustified fear and stigma and paralyzing systems.**

- The WHO though believes that the novel coronavirus has pandemic potential, argues that with the right approach the spread of the virus could be stopped.
- In the backdrop of the global spread of the virus, on February 28, WHO upgraded COVID-19's global threat level to 'very high'.

Positives:

- **Fourteen countries have managed to contain the spread of the virus** and no new case has been reported for more than a week.
 - Hong Kong and Singapore appear to have largely contained the spread.
 - Nine countries, including India, Nepal and Sri Lanka, have not reported any additional cases in the last two weeks.'

The above facts, highlight that the virus can be stopped in its tracks if countries take appropriate and timely actions.

Way forward:

- The priority should be to **detect cases early and isolate people** who test positive for the virus.
- Countries that have reported even one case should primarily focus on containing the spread of the virus.
 - Once a case is detected, the focus should be to trace the previous contacts of the infected person and treat them if found to be infected.
 - Efforts should also be centred on **preventing outbreaks in hospitals and spread in the community.** One way to stop the spread in the community is to avoid mass gathering in enclosed spaces.
- It is advisable to **avoid all non-essential travel** to countries where community spread of the virus has been reported.
- Since the current molecular test is not highly sensitive and can return false negatives, people need to be attentive to the fact that they can still be infected and should seek immediate medical care once symptoms show up.

2. NPR 2020 skids

Context:

The **Bihar assembly resolution** stating that the National Population Register (NPR) would be done according to the 2010 format.

Details:

- The NPR 2020 enumeration exercise will be undertaken during April-September 2020.

National Population Register (NPR):

-
- **The NPR is a database of usual residents** in the country who have stayed in a local area for the past six months or more and who intend to remain in the same place for the next six months or more.
- Unlike the Census which provides information on the status of the residents of India and population swings, **the NPR is individual and identity specific.**
- The NPR data collection is done under the aegis of the Office of the Registrar General and Census Commissioner of India.
- The NPR is undertaken under the provisions of The Citizenship Act, 1955 and The Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.
- The NPR database was first created in 2010. The NPR was last updated, except in Assam and Meghalaya, in 2015-16.

NPR format of 2010:

- **Fifteen identity particulars** of the individual members of the household are sought in the 2010 format.
- These include name, relationship to the head of the household, sex, date of birth, marital status, educational qualification, occupation/activity, names of parents, place of birth (of everybody staying in the household at the time), nationality, present address of usual residence, duration of stay at the present address and permanent residential address.

Concerns:

Updated format of 2020:

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- Apart from the information sought as per the 2010 format, **certain new information** will be collected under the updated format, such as Aadhaar, mobile, voter ID, passport and driving licence, if available with the residents on a voluntary basis.
- The new format for NPR 2020 requires residents to disclose their **mother tongue and the places and dates of birth of their parents** even if they are not living in the same household at the time or not alive. Individuals have to disclose the districts and States of their parents' birth.
- Given the poverty levels in India and the inability of the underprivileged to formalize their birth due to lack of access to health care, the task of disclosing the exact birth and place of birth, especially of the aged parents and orphans, would prove to be a challenging task.

The link between NPR and the National Register of Citizens:

- **The Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003** mandates that particulars of families and individuals in the NPR would be used for verification in the National Register of Citizens (NRC) process.
- The Local Registrar is empowered, during verification, to mark out the particulars of individuals whose citizenship is doubtful, for further enquiry.
- **The onus to prove he or she is a citizen is entirely on the individual concerned.** Thus, the data collected through NPR becomes the crux for determining the citizenship of a person.
- There are concerns that the proposed NPR is a signal of the upcoming nationwide National Register of Citizens (NRC) to identify illegal migrants.
- Some State governments are apprehensive that the NPR data would be used to target citizens on the basis of their identity and **deprive them of their citizenship.**
- **The widespread doubts** about the intentions behind the NPR may affect the smooth conduct of the Census.

The Assam experience:

- The **NRC exercise in Assam** had led to the exclusion of over 19 lakh people from the citizens' list in the State. There have been reports of many eligible citizens being excluded due to their lack of ability to provide suitable documents.

Differences between states and the centre:

- Besides Bihar, several State governments such as Kerala, West Bengal, Punjab have objected to the implementation of NPR 2020.

- **The workforce for the updation of NPR 2020 has to be provided by the State governments.** With many States objecting to the new format and its contentious clauses, the exercise may reach a deadlock.

3. Experts raise concerns for India over U.S.-Taliban agreement (GS-2)

Context:

The **U.S.-Taliban** and **U.S.-Afghanistan** peace agreements.

Details:

- India has signalled its acceptance of the U.S.-Taliban and U.S.-Afghanistan peace agreements in Doha and Kabul, by sending envoys to witness the events.
- The two agreements set out a course for the next 14 months for the stakeholders of the agreement.
- The major provisions include the **pullout of U.S. troops**, the Taliban should **deny space for foreign terrorist groups in Afghanistan and refrain from any violence against the U.S. and its allies**. There is a provision for an **intra-Afghan dialogue** between the elected Afghan government and the Taliban.

Concerns:

Complex issues still not negotiated:

- The actual terms of the peace deal are yet to be negotiated between the Taliban and the Afghan side, facilitated by the U.S.
- Most of the difficult issues are still to be dealt with. There is **no reference to the Constitution, rule of law, democracy and elections in the agreement**.

One-sided agreement:

- Some security experts are of the view that the **agreement seems to be entirely one-sided**, since all Taliban demands have been agreed with, without the Taliban ceding ground on the demands placed on it.
- In the Doha agreement, the U.S. has committed to clearing five bases and bringing troop levels down to 8,600 in four-and-a-half months.
- With strong **doubts on the Taliban's ability and will to deliver on the assurances** it has given, the U.S. has ceded to most of the demands of the Taliban.

Indian Concerns:

- Diplomatic and security experts are of the view that the two agreements may have a bad **impact on Indian interests**.

Uncertain terms of the agreement:

- **In the Doha agreement**, the Taliban has guaranteed enforcement mechanisms that will prevent the use of the soil of Afghanistan by any group or individual against the security of the United States and its allies.
- However, it is **unclear whether India, which is not a U.S. ally, is included in this definition**, and whether Pakistan-backed groups that threaten India would still operate in Afghanistan.
- **The Kabul declaration with the Afghan government, more specifically**, commits to stopping any international terrorist groups or individuals, from using Afghan soil to threaten the security of the United States, its allies and other countries.

Impact of prisoner release:

- According to the agreements, 5,000 Taliban prisoners will be released by March 10, 2020, and the remainder in another three months.
- Indian officials are worried that the release of the Taliban fighters would **strengthen the Haqqani network**. The Haqqani network was responsible for the 2008 bombing of the Indian embassy in Kabul.

Impact of lifting sanctions:

- The U.S. has committed to **taking Taliban leaders off the UN Security Council's sanctions list by May 29, 2020**, which could considerably bring down the number of terrorists Pakistan is accused of harbouring, according to the **FATF greylist conditions**.
- This might **benefit Pakistan during the June 2020 FATF Plenary**, when it faces a blacklist for not complying.

Handing powers to Taliban:

- The U.S., via the agreement, even **appears to submit to the possibility of a Taliban-led government**, by extracting promises that the Taliban will not threaten the safety of the U.S. and its allies.
- This appears to **sideline the "Intra-Afghan" dialogue** and India's support for the election process for leadership in Afghanistan.
- This also raises a big **question mark on the future of Afghanistan's government**, and whether it will remain a democracy.

Increasing Pakistan's influence:

- The **proposed Afghanistan-Pakistan dialogue**, facilitated by Washington, on cross-border terrorism and mechanisms may **cut India out of the region's security architecture** while increasing Pakistan's strategic depth in Afghanistan.

4. Tracking the big three

Context

The article focuses on the top three Sustainable Development Goals (SDGs) of the United Nations, namely poverty elimination, zero hunger, and good health and well-being by 2030.

India's record on extreme poverty, hunger and health

- **Decline in extreme poverty:** The World Bank's estimates of extreme poverty- measured as **\$1.9/per capita/per day** at purchasing power parity of 2011- show a secular decline in India from 45.9 per cent to 13.4 per cent between 1993 and 2015.
- **Elimination of extreme poverty 2030:** If the overall growth process continues as has been the case since, say, 2000 onwards, India may succeed in eliminating extreme poverty by 2030, if not earlier.
- **Zero hunger by 2030:** Given the overflowing stock of food grains with the government, and a National Food Security Act (NFSA) that subsidises grains to the tune of more than 90 per cent of its cost to 67 per cent of the population, there is no reason to believe that India can also not attain the goal of zero hunger before 2030.
- **Health- a real challenge:** The real challenge for India, is to achieve the third goal of good health and well-being by 2030. India's performance in this regard, so far, has not been satisfactory. as per the National Family Health Survey (NFHS 2015-16)-
 - In 2015-16, almost 38.4 per cent of India's children under the age of five years were stunted.
 - 8 per cent were underweight.
 - 21 per cent suffered from wasting (low weight for height).
 - The situation in some states like Bihar, Jharkhand and Uttar Pradesh is even worse.
- **Global Hunger Index ranking of India:** No wonder, the Global Hunger Index (GHI) ranks India at 102 out of 117 countries in terms of the severity of hunger in 2019.

What are the various targets set on the nutrition problem?

- **Target on reducing the problems of underweight children:** The **National Nutrition Strategy, 2017**, aims to reduce the prevalence of underweight children (0-3 years) by three percentage points every year by 2022 from NFHS 2015-16 estimates.
 - **Why this is an ambitious target?** This is an ambitious target given the decadal decline in underweight children from 42.5 per cent in 2005-06 to 35.8 per cent in 2015-16 amounts to less than 1 per cent decline per year.
- **Targets set in National Nutrition Mission:** Similar targets have been set by the National Nutrition Mission (renamed as POSHAN Abhiyaan), 2017.

- To reduce stunting by 2 per cent.
- Under-nutrition by 2 per cent.
- Anaemia (among young children, women and adolescent girls) by 3 per cent.
- Low birth weight by 2 per cent.

Four areas India needs to focus to achieve the set targets

- **India has to focus on four key areas:** If India has to make a significant dent on malnutrition by 2030.
- **First- Mother's education.**
 - **Multiplier effect:** It is one of the most important factors that have a positive multiplier effect on child care and access to healthcare facilities.
 - **Increases awareness:** It also increases awareness about the nutrient-rich diet, personal hygiene, etc. This can also help contain the family size in poor, malnourished families.
 - Thus, a high priority to female literacy, in a mission mode through liberal scholarships for the girl child, would go a long way towards tackling this problem.
- **Second- Access to improved sanitation and safe drinking water.**
 - The Swachh Bharat Abhiyan and Jal Jeevan Mission would have positive outcomes in the coming years.
- **Third-shift in dietary pattern**
 - **Shift from cereals to more nutritious food:** There is a need to shift dietary patterns from cereal dominance to the consumption of nutritious foods such as livestock products, fruits and vegetables, pulses, etc.
 - But they are generally costly and their consumption increases only by higher incomes and better education.
 - **Diverting the food subsidy to nutritious foods:** Diverting a part of the food subsidy on wheat and rice to more nutritious foods can help.
- **Fourth- Adoption of new agricultural technology**
 - **Adopt bio-fortifying cereals:** India must adopt new agricultural technologies of bio-fortifying cereals, such as zinc-rich rice, wheat, iron-rich pearl millet, and so on.
 - The Indian Council of Agricultural Research (ICAR) has to work closely with the Harvest Plus programme of the Consultative Group of International Agricultural Research (CGIAR) to make it a win-win situation for curtailing malnutrition in Indian children at a much faster pace – and, at a much lower cost than would be achieved under a business as usual scenario.

Examples from the world

- **Right public policies make the difference:** Global experience shows that with the right public policies focusing on agriculture, improved sanitation, and women's education, one can have much better health and well-being for its citizens, especially children.

- **China's example:** In China, it was agriculture and economic growth that significantly reduced the rates of stunting and wasting among the population and lifted millions of people out of hunger, poverty and malnutrition.
- **Brazil and Ethiopia example:** According to FAO, Brazil and Ethiopia have transformed their food systems: They have targeted their investments in agricultural R&D and social protection programmes to reduce hunger in the country.

Conclusion

Despite India's improvement in child nutrition rates since 2005-06, it is way behind the progress experienced by China and many other countries. According to the Global Nutrition Report, 2016, at the present rates of decline, India will achieve the current stunting rates of China by 2055. India can certainly do better, but only if it focuses on this issue.

5. Explained: US-Taliban Pact



- The US and Taliban signed an agreement for “Bringing Peace to Afghanistan”, which will enable the US and NATO to withdraw troops in the next 14 months.
- The pact is between the “Islamic Emirate of Afghanistan which is not recognized by the United States as a state and is known as the Taliban” and the US.
- The four-page pact was signed between Zalmay Khalilzad, US Special Representative for Afghanistan Reconciliation, and Mullah Abdul Ghani Baradar, political head of the Taliban.

Key elements of the deal

Troops Withdrawal

- The US will draw down to 8,600 troops in 135 days and the NATO or coalition troop numbers will also be brought down, proportionately and simultaneously.
- And all troops will be out within 14 months – “all” would include “non-diplomatic civilian personnel” (could be interpreted to mean “intelligence” personnel).

Taliban Commitment

- The main counter-terrorism commitment by the Taliban is that “It will not allow any of its members, other individuals or groups, including al-Qaeda, to use the soil of Afghanistan to threaten the security of the US and its allies”.
- While Miller said the reference to al-Qaeda is important, the pact is silent on other terrorist groups – such as anti-India groups Lashkar-e-Toiba or Jaish-e-Mohammed.
- *Again, India, not being an US ally, is not covered under this pact.*

Sanctions Removal

- UN sanctions on Taliban leaders to be removed by three months (by May 29) and US sanctions by August 27.
- The sanctions will be out before much progress is expected in the intra-Afghan dialogue.

Prisoner’s release

- This is a possible trouble spot because the US-Taliban agreement and the joint declaration differ, and it is not clear whether the Ashraf Ghani-led government is on board with this big up-front concession to Taliban.
- The joint declaration says the US will facilitate discussion with Taliban representatives on confidence building measures, to include determining the feasibility of releasing significant numbers of prisoners on both sides.
- While there are no numbers or deadlines in the joint declaration, the US-Taliban pact says up to 5,000 imprisoned Taliban and up to 1,000 prisoners from “the other side” held by Taliban “will be released” by March.
- The intra-Afghan negotiations are supposed to start in Oslo.

Ceasefire

- This is identified as another potential “trouble spot”.
- The agreement states ceasefire will be simply “an item on the agenda” when intra-Afghan talks start, and indicate actual ceasefire will come with the “completion” of an Afghan political agreement.

Implications of the Deal

An adieu to democracy in Afghanistan

- The Taliban have got what they wanted: troops withdrawal, removal of sanctions, release of prisoners.
- This has also strengthened Pakistan, Taliban's benefactor, and the Pakistan Army and the ISI's influence appears to be on the rise.
- It has made it unambiguous that it wants an Islamic regime.
- The Afghan government has been completely sidelined during the talks between the US and Taliban.
- The future for the people of Afghanistan is uncertain and will depend on how Taliban honours its commitments and whether it goes back to the mediaeval practices of its 1996-2001 regimes.

Implications for India

- India has been backing the Ghani-led government and was among very few countries to congratulate Ghani on his victory.
- India's proximity to Ghani also drew from their shared view of cross-border terrorism emanating from Pakistan.
- There has not been formal contact with top Taliban leaders, the Indian mission has a fair amount of access to the Pashtun community throughout Afghanistan through community development projects of about \$3 billion.
- Due to So, although Pakistan military and its ally Taliban have become dominant players in Kabul's power circles, South Block insiders insist that it is not all that grim for New Delhi.
- these high-impact projects, diplomats feel India has gained goodwill among ordinary Afghans, the majority of whom are Pashtuns and some may be aligned with the Taliban as well.

Way Forward

- The joint declaration is a symbolic commitment to the Afghanistan government that the US is not abandoning it.
- Much will depend on whether the US and the Taliban are able to keep their ends of the bargain, and every step forward will be negotiated, and how the Afghan government and the political spectrum are involved.
- Like in 1989, 1992, 1996, and in 2001, Pakistan has the opportunity to play a constructive role. It frittered away the opportunities in the past.

6. Return to chaos in Afghanistan? (GS-2)

Context:

The **U.S.-Taliban agreement** signed in Doha.

Details:

- An **intra-Afghan dialogue** is one of the major provisions of the recently signed U.S.-Taliban agreement. Through this, the U.S. seeks to exit Afghanistan with assurances from the Taliban that it would engage the Kabul government directly to find a lasting solution to the civil war.
- An intra-Afghan dialogue has been elusive since the establishment of **the Afghan High Peace Council in 2010** by the then President Hamid Karzai.

Concerns:

- There are a few concerns associated with the proposed intra-Afghan dialogue.

Clauses of the deal:

- **The prisoner swap clause in the Doha deal** requires the Afghanistan government to release 5,000 Taliban prisoners in exchange for the Taliban release of 1,000 Afghan captives.
- President Ghani has ruled out complying with this clause, arguing that his government never agreed to it.
- Hence, a principal objective of the deal would be a **non-starter**, casting serious doubts on the possibility of a fruitful intra-Afghan dialogue.

Taliban's intentions:

- Though there are provisions for intra-Afghan dialogue, many have questioned the **Taliban's will to engage in peaceful negotiations**.
- The Taliban's earlier actions have amply indicated the fact that it never wanted to negotiate with Kabul. If the Taliban was interested, such an intra-Afghan negotiation would have taken place earlier. The Taliban has previously targeted many of the Afghan High Peace Council members, including the chairman of the Council, in 2011.
- The Taliban's objective would be to capture Kabul, and not share power in Kabul with anyone.
- The Taliban will probably try to **derail any attempt towards an intra-Afghan dialogue**.

Upper-hand to the Taliban:

- The Taliban did not yield to the earlier intra-Afghan dialogue proposals by the U.S.
- Taliban consistently stated that it did not recognize the elected government in Kabul led by Mr Ghani. It continued **targeting the Afghan security forces making 2018-19 one of the most violent years in recent Afghan history.**
- The U.S. withdrawal from Afghanistan will invariably weaken the Kabul government, altering the balance of power both on the battlefield and at the negotiating table of the intra-Afghan talks. **The Doha deal will legitimize the Taliban as a political actor in Afghanistan.**

Political uncertainty in Afghanistan:

- The 2019 Afghanistan elections have resulted in **political instability in Afghanistan.**
- President Ashraf Ghani (belonging to the largest ethnic group of Pashtuns) and his primary challenger Chief Executive Abdullah Abdullah (belonging to the second largest ethnic group of Tajiks) have declared victory and both are threatening to set up parallel governments.
- Unlike, after the presidential election in 2014, wherein the U.S. brought both the leaders on a common platform and negotiated a deal, this time there were no such efforts from the U.S.'s side.
- Given the political instability already in Afghanistan, the **high stake deal seems to have come at the wrong time.**
- With the divide between Mr Ghani and Mr Abdullah in Kabul, any announcement on government formation is likely to increase the **fault lines in the bureaucracy and the Afghan security forces.** This will provide an opportunity for the Taliban to impose itself on Kabul and the rest of Afghanistan.

A civil war in Afghanistan:

- **The intra-Afghan talks will likely fan ethnic tensions in the country.** Consequently, ethnic fissures may descend into open conflict.
- There are concerns that the U.S.-Taliban deal will probably lead to **another civil war in Afghanistan,** instead of the intended goal of bringing lasting peace to Afghanistan.
- The Taliban may not target American troops but it will continue fighting the Afghan security forces for dominance. This **might push the fragile country into chaos.**

Conclusion:

- Instead of expecting a fruitful intra-Afghan dialogue post the Doha agreement, there have been **suggestions that the U.S.-Taliban deal should have followed an intra-Afghan dialogue** between President Ashraf Ghani and Chief Executive

Abdullah Abdullah on the one hand and between the Afghan government and Taliban on the other hand.

This could have **ensured lasting peace and stability in Afghanistan.**

7. Various schemes implemented by Zonal Cultural Centres (ZCCs)

The Ministry of Culture and Tourism has informed about its various schemes in the Lok Sabha.

Zonal Cultural Centres (ZCCs)

- To preserve & promote various forms of folk art and culture of the tribals throughout the country including West Bengal, the govt. has set up seven Zonal Cultural Centres (ZCCs).
- These are headquartered at Patiala, Nagpur, Udaipur, Prayagraj, Kolkata, Dimapur and Thanjavur.
- These ZCCs organize various cultural activities and programmes all over the country on regular basis.

These ZCCs under Ministry of Culture are also implementing a number of schemes for promoting the folk/tribal art and culture, details of which are as below -

1) 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/-.

2) 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 the period of six month to maximum 1 year for one scheme.
- The names of the Gurus are recommended by the State Cultural Affairs Departments.

3) 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 are also facilitated.
- Zonal centres also participate in Major festivals happening in member States by arranging performances during these festivals where large number of audience get chance to enjoy and understand art forms of other regions.
- These festivals provide opportunity to taste and understand various cultures of our country.

4) Preservation of Languages

- 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.

5) 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 on the basis their credentials as well as the merit of project submitted by them.

6) 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/ audio - visual media.
- The art form is finalized in consultation with state Cultural Department.

7) 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.

8) 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.

8. A COVID-19 response that is quick off the blocks (GS-2)

Context:

The global spread of COVID-19

Background:

- As of March 2, 2020, according to the World Health Organization, there are **around 89,000 confirmed cases from 65 countries and 27 countries have reported local transmission.**
- Apart from China, there are now COVID-19 epidemics in South Korea, Iran, Italy and Japan.
- **India has reported six confirmed cases till date.**
- Given the **COVID-19's uniqueness of being a respiratory pathogen with the capability of community transmission**, medical experts are of the view that there is an impending pandemic and believe that it is a question of when this will happen and how many people will be affected.

Concerns:

Possible epidemic:

- Given the global spread of the COVID-19, India could anticipate the **possibility of a rapid viral spread in India**

Lack of adequate resources:

- The **current health-care resources in India will be inadequate** for the response.
- The number of beds available in the hospital, medical personnel available and ICU's available will fall drastically short in the case of an epidemic in India.

Lax infection prevention and control practices:

- In India, **infection prevention and control practices in health-care facilities are often overlooked.** The reasons range from non-availability of personal protective equipment to a **relaxed attitude** towards safety norms.

The Ebola example:

- An outbreak which is unaddressed will have **short- and long-term impacts on health.**
- The **2014-15 West Africa Ebola outbreak overwhelmed the local fragile health systems.** Many front-line health workers and prominent doctors fell victim to the outbreak leaving the health system without any grassroots level workers.

- The outbreak response **absorbed all available health resources** and impacted other critical programmes such as routine immunization leading to measles outbreaks in West Africa.
- The response plan should be able to maintain ongoing regular health programmes while at the same time devoting adequate resources to the response. This would prove to be a challenge to the **resource and personnel poor medical system of India**.

Suitability of models implemented in other countries:

- NCMC will have to determine whether **cluster containment measures** such as those practised in China are feasible in the Indian context given its diversity and resources.
- It will have to determine the effectiveness of adopting such a model and also have to set a time frame for its implementation if it decides to implement it.
- The response should be informed by the requirement to **balance public health measures and the rights of people** who would be impacted by containment measures. This would involve a delicate balancing act on the part of the NCMC.

Way forward:

Stages of the response:

- The objective of the response should be to adapt to the stage of the outbreak.
- **In the initial phase of an outbreak**, such as the current status in India, when cases are few and manageable, it makes sense to do **extensive screening**, testing of all suspected cases and carrying out contact tracing to prevent its spread into the wider community.
- **In the advanced stages of an outbreak**, with signs of sustained community-wide local transmission, testing will lose its significance as a large number of cases may overwhelm the laboratory capacity.
 - At this stage, the system response should **change from containment efforts to mitigation efforts**. The efforts should focus on reducing the severity of the challenge to ensure that the health system is able to sustain the number of cases.

Components of the response:

- India needs to be ready to mount a **coordinated, coherent and sustained response** against COVID-19.

Co-ordination and coherent response:

- Worryingly, **India has a fragile health system which is highly fragmented**. In such a scenario, it is critical to mount a coordinated and coherent response to contain the outbreak.
- Co-ordination would not only mean the **involvement of both public and private sectors** but also allopathic and non-allopathic medical systems, different departments such as police, fire, transportation, tourism, food supplies and other sectors.
- **The National Crisis Management Committee (NCMC) framework**, envisaged to be set up in situations of large natural calamities, should be leveraged. It should coordinate across ministries and departments.
- NCMC will have to work in conjunction with duly constituted State and district-level crisis committees.
- Given the limited resources and personnel in the country's medical system, **resources from other departments and the general public in the form of finances, material resources and personnel**, need to be pooled and mobilized.

Transparency:

- The response to the outbreak should be proportional and **based on scientific principles while ensuring transparency**.
- Transparency and fact-based information are hugely important as in moments of crisis, rumours and unsubstantiated claims spread rapidly and act as an impediment to the efforts and damaging to the public interest.
- The administration should consider setting up a **dedicated web portal** including a dashboard with key indicators, current case definitions, guidelines, risk communication materials and micro plans.
- **The potential of social media and media outlets in dispersing critical information** must be leveraged.

Risk communication:

- Given the reports pointing to the high transmission capacity of the virus, the response plan should ensure that **critical personnel across sectors such as health, energy, defence, and food supply are identified and protected**.
- Priority needs to be given to **protecting front-line health workers**, intensive care unit nursing staff, doctors including specialists such as intensivists, pulmonologists, etc.
- Risk communication should address the lenient attitude towards infection prevention and control practices.
- The government should **draft and publish clinical guidelines** for triage, admission, discharge, ventilator support and other components, as applicable for various levels of the health system and these should be **updated on a regular basis**, as more knowledge about the virus emerges.

Non-governmental efforts:

- Preparedness and response cannot be considered the sole domain nor the prerogative of the government alone.
- **All institutions, entities, firms both private and public and even individuals and households should make contingency and advance preparedness plans.**
- **Companies** need to decide on putting in measures such as work from home, suspension of non-essential travel, and reinforcing workplace hygiene and health information protocols, expansive leave policies for the sick or those under quarantine.
- **Local authorities** can make plans for school closure, home isolation and social distancing.

People led efforts:

- **Currently, there is no definitive cure nor a vaccine for COVID-19.** Despite the best efforts worldwide, the development of the vaccine will need an extended timeframe.
- Hence currently, the response plan relies on basic measures such as health education, social distancing, and home isolation to reduce the speed at which the outbreak will spread.
- Apart from the important role played by the medical personnel, Ebola was brought under control by people who within a short time changed their long-held traditional burial practices and routines such as handshaking.
- Given the low levels of hygiene and sanitation in India, **Large-scale behaviour changes will be the cornerstone of a successful response.**
- Simple yet effective measures like compulsory washing of hands, better sanitation practices will aid the efforts against COVID-19. The government should aid this by **imparting the necessary health education.**

Long term plan:

- Even if COVID-19 does not reach epidemic status in India, it is well-advised to continue to **develop and maintain infrastructure to respond to new novel infectious** agents capable of rapid spread, given the fact that over the past decade India has been witness to outbreaks of swine flu and Nipah.
- Outbreak preparedness is a worthwhile investment as preparedness allows a health system to take proactive steps to mitigate or lessen the adverse impacts of an outbreak and to be in control of the situation
- COVID-19 has given us an opportunity to test our systems and **build resilience for the future.**

Conclusion:

- The unprecedented containment measures taken by China have bought the world some lead time against the COVID-19 outbreak. India must devote efforts to **getting the system ready for a possible epidemic.**

9. A blow against social justice (GS-2)

Context:

- Supreme Court **judgment on Reservation and Scheduled Caste and Scheduled Tribes promotions.**
- The author of the article offers an argument against the observations made in the judgment.

Details:

- **The two-judge Supreme Court Bench** has ruled that **no individual could claim reservation in promotions** and that the **court could not issue a mandamus** directing State governments to provide reservation.
- The verdict has raised four important constitutional questions:
 - Whether reservation in promotions is a fundamental right or not.
 - Whether a court can direct the state to provide reservations.
 - Whether quantifiable data for inadequate representation is a must for giving reservation in promotions.
 - And whether it is the obligation of the state to give reservation.

Concerns:

- The author of the article notes several concerns with the judgment.

Two judge bench:

- Worryingly, the present judgment has been delivered by a two-judge bench.
- Since the case **involves multiple constitutional issues**, it should have been dealt with by a larger constitutional bench that included a Scheduled Caste (SC) or Scheduled Tribe (ST) judge.

Impact on social justice:

- Denying application of reservation in promotions has largely confined SCs and STs to lower cadre jobs. Hence, this verdict has **affected social justice and the advancement of the underprivileged.**

Administrative efficiency:

- The judgment has also noted that the decision of the State government to provide reservation for SC/STs should not affect the efficiency of administration.
- With the **lack of evidence to prove the inter-relation between performance in administration and caste**, the observation which implies that the entry of SC/STs in the job market can reduce the quality of administration is by **itself discriminatory**.

Quantifiable data:

- The responsibility of collecting data on representation by the Backward Classes lies with the state, which has been **reluctant to carry out the caste-based census**.
 - The last caste-based census was in 1935. After Independence, no government has had the inclination to conduct a caste-based census due to political reasons.

Interpretation as enabling rights:

- The recent judgment has **interpreted Articles 16 (4) and 16(4A) only as enabling provisions**.
 - Enabling provisions mean that these provisions empower the state to intervene and it does not mean the state is not bound to provide it.
- Interpreting the Constitution by paraphrasing and **selective reading may not be the ideal way** to interpret this provision of the constitution.

Details:

- The author argues against the Judgment on the basis of the constitutional questions that the given verdict has given rise to.

Reservation as a fundamental right:

- The scope for reservation for the Backward Classes is promised in **Part III of the Constitution under Fundamental Rights**.
- **Articles 16(4) and 16(4A) empowers the state to provide reservation for SCs and STs**. This article deals with equality of opportunity in matters of public employment.
- Though there have been arguments that reservation provisions are against the **right to equality as propounded by Article 16 of the Indian constitution**, these arguments tend to ignore the fact that the absence of equal opportunities for the Backward Classes due to historic injustice by virtue of birth entails them reservation.

- The absence of a level-playing field among the castes calls for the need of reservations
- **Articles 16 (2) and 16(4) are neither contradictory nor mutually exclusive in nature.** In fact, they are complementary to each other.
- The right to equality is also **enshrined in the Preamble of the Constitution**, wherein there is the mention of securing social, economic and political justice to all Indian citizens and ensuring equality of status and of opportunity for all.

Reservation in promotions:

- India possesses a distinctive hierarchical arrangement of caste manifesting in the form of **poor representation of SCs and STs in higher posts.**
- Denying application of reservation in promotions has kept SCs and STs largely confined to lower cadre jobs.
- In cases when there is no direct recruitment in higher posts, the implementation of the reservation is justified at every level to get a reasonable representation at all levels. Hence, **providing reservation for promotions is justified and appropriate to attain equality.**
- There are concerns that the judgment destabilizes the very basis of reservation in India. By delineating the scope of reservation at the entry-level and in promotions, it will only lead to confusion in the implementation of reservation.

Court's power to issue a mandamus:

- Given the arguments that reservations can be considered a fundamental right, the Judiciary is well within their rights to direct the state to provide reservation in promotions.
- The Supreme Court has extraordinary powers under **Article 142**, which empowers the Court to pass any order necessary for doing complete justice in any cause or matter pending before it. The court can make use of this provision even if there are arguments against the right of courts to issue mandamus.

Need for quantifiable data:

- Previous judgments of the SC like in the **Indra Sawhney vs Union of India case**, have stressed on the need for quantifiable data to show an inadequate representation of reserved category people as an argument for reservations.
- The Indian constitution's **Article 16(4)** reads: "Nothing in this article shall prevent the State from making any provision for the reservation of appointments or posts in favour of any backward class of citizens which, in the opinion of the State, is not adequately represented in the services under the State."
 - The phrase, 'in the opinion of State' should not be misrepresented to mean the discretion of the state to give reservation or not. It should rather mean

that if the state feels that SCs and STs are under-represented, then it is in the duty of the state to provide reservation.

- Moreover, Article 16(4) clearly mentions that if the state, in its opinion, feels that SCs and STs are not adequately represented, then it can provide reservation for them. **There is no mention of “quantifiable data” in the Constitution.**

The obligation of the state:

Given the fact that reservation rights are in Part III of the Indian constitution as Fundamental Rights, it is the obligation of the state to ensure reservation to the underprivileged.

10. ECI not in Favour of State Political Fundings for Polls

Why in News

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.**

- The state funding of elections was recommended by the **Indrajit Gupta Committee in 1998.**

ECI's View

- 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 changes in following elements of 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.

Recommendations on State Funding for Elections

- **Indrajit Gupta Committee (1998)**
 - The Indrajit Gupta Committee had suggested that **state funding** would ensure a **level playing field** for poorer political parties and argued that such a move would be in public interest.

- It had also recommended that **state funds should only be given to recognised national and State parties.**
- 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 (2001)**
 - 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.

Recent Steps Taken by the Government

- The government has amended the **Income Tax Act and limited anonymous cash donations to Rs 2,000 to discourage cash transactions and bring in transparency** in the source of funding of political parties.
- The '**Electoral Bond Scheme**' was introduced in 2018 to establish a transparent political funding system in the country, with a well-established audit trail.
 - An electoral bond is a bearer instrument like a Promissory Note.
 - It can be purchased by any citizen of India or a body incorporated in India to donate to the political party of their choice. Donor's name is not mentioned on the bond.
 - These bonds can be used for making donations to the political parties registered under Section 29A of the Representation of the People Act, 1951 and which have secured not less than one per cent of the votes polled in the last general **election** to the House of the People or a Legislative Assembly.

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.

11. Caught in a bureaucratic web

Context

- In this article, we discuss how appeals from Foreigners Tribunals cases are decided by the Gauhati High Court and issues in some of the judgments.

Burden of proof

- Section 9 of the Foreigners Act, 1946 says that when there arises a question as to whether a person is a foreigner or not, the **onus of proving that the person is not a foreigner is on the person concerned.** It is on the person accused of being a foreigner.
- If the person accused does not appear before the Tribunal, he/she will be declared a foreigner without the state having to prove their case.

Example

- Sahjuddin was poor. He was not able to afford the services of a lawyer and was not represented before the Foreigners Tribunal in Kokrajhar.
 - The tribunal passed an ex-parte order declaring him a foreigner.
 - He appealed to the High Court against the order of the tribunal.

- The Gauhati High Court **declared Sahijuddin a foreigner without even examining the documents he possessed.**
- The process is particularly cumbersome for women. Women who do not have birth certificates and get married before registering as voters do not have any document linking them to their parents.
 - The Supreme Court in **Rupajan Begum vs. Union of India** allowed a **certificate from the gram panchayat secretary to be submitted as a link document to prove descent** from a person who entered India before March 24, 1971.
 - However, wherever this certificate is produced as evidence, the **gram panchayat secretary needs to testify in person.**
 - This standard of proof is quite difficult to meet, given that **gram panchayat secretaries change over time.** In 99% of the cases where such a document was produced, the person was declared a foreigner.

Ex parte order

- An ex parte order is any court order that is issued when one party is not present at the hearing. Such hearings are called “ex parte” hearings.

Key stats

All the persons who appealed to the High Court **had some form of documentation.**

- Around 61% of them **produced electoral rolls** and 39% of them produced **permanent residence certificates/certificates** from the panchayat.
- In 66% of the cases, the Foreigners Tribunals found the **documentation unsatisfactory.**
- In 38% of the cases, documentation was rejected because **spellings did not match** and in 71% of them, the **secondary evidence** was deemed inadmissible.
- This means that where people had produced copies of documents, these were not certified copies or the person who had created the document could not certify its contents.
- Overall, in 97% of the appeals before the High Court, the person was declared a foreigner.

Concerns

- In 15% of these cases, the High Court **ordered deportation**.
- Amongst the remaining cases, in 1%, the Court ordered that the person be **sent to a detention centre**, and in 80% of the cases, the **Court did not specify what steps were to be taken**.
- In a majority of cases, the High Court instructed the **Border Police or the Foreigners Tribunal to “do the needful.”**
 - It is not clear what the Border Police or Foreigners Tribunals did thereafter.
- Although the Foreigners Act provides for a range of **non-custodial options such as** restrictions on residence, the prohibition of certain kinds of work, etc., the High Court appears to prefer detention and deportation.

Conclusion

- The question of citizenship is caught in a confusing tangle of documents, bureaucracy, and legal procedures which Foreigners Tribunals and the Gauhati High Court are tasked with resolving.

While resolving such issues, the courts need to avoid an overly legalistic approach which ignores fundamental contradictions.

12. Teaching the teacher

Context

Our teacher education system must be aligned with global standards.

Learning crisis and teacher vacancies in India

- **Teacher education as a status check on schooling education:** Comparable to the role of a thermometer in diagnosing fever, an assessment of the quality of teacher education can be a status check on the schooling system.
 - **Teachers remain at the heart of the issue**, and translating schooling into learning is a critical challenge.
- **The gravity of learning crisis:** The learning crisis is evident in the fact that almost half of the children in grade 5 in rural India cannot solve a simple two-digit subtraction problem,
 - While 67 per cent of children in grade 8 in public schools score less than 50 per cent in competency-based assessments in mathematics.

- **Teacher vacancies:** India is dealing with a scenario of significant teacher vacancies, which are to the tune of almost 60-70 per cent in some states.
- In fact, there are over one lakh single-teacher schools present across the country.
- **Excess teachers produced by TEIs:** On the other hand, there are 17,000-odd Teacher Education Institutes (TEIs) that are responsible for preparing teachers through programmes such as the Bachelor of Education (B.Ed), and Diploma in Elementary Education (D.El.Ed).
 - 19 lakh teachers every year: Taking their sanctioned intake into account, at full operation, these TEIs could generate over 19 lakh freshly trained teachers every year as against the estimated annual requirement of 3 lakh teachers.
 - To put things in perspective, currently, there are about 94 lakh teachers across all schools in India.
 - Every year, the teacher education system could, therefore, be producing one-fifth of the total number of school teachers.

The quality aspect of the teachers

- **Poor quality teachers:** Not only are these TEIs generating a surplus supply of teachers, but they are also producing poor-quality teachers.
- **Pass percentage in eligibility test below 25%:** Besides it being reflected in the dismal state of learning across schools, the pass-percentage in central teacher eligibility tests that stipulate eligibility for appointments as teachers has not exceeded 25 per cent in recent years.
 - This begs a pertinent question – how did we get here?

What are the reasons for such problems?

- **The answers lie in:** The inadequacies of **planning, regulation, policy and organisational structures.**
- **The role and issues in NCTE:** The National Council for Teacher Education (NCTE) and its four regional committees (north, south, east and west), established by statute, are responsible for teacher education in India.
 - **Toothless in terms of powers:** The Act assigns disproportionate power to the regional committees which **grant programme affiliation** while the Council has been rendered toothless.
- **Proliferation of sub-standard TEIs:** Perverted incentives, widespread corruption and commercialisation have resulted in a massive proliferation of sub-standard TEIs.

- In fact, while most of these TEIs are financially unviable, some function out of tiny rooms with duplicate addresses, and a few could even be selling degrees at a fixed price.
- **No system to ensure the entry of meritorious:** These institutes function in isolation from the rest of the higher education system, and there is no system to assess and accredit them. Consequently, there is no systemic sieve to ensure the entry of only motivated and meritorious individuals into the teacher education space.
- **Disparity regional spread of TEIs:** A more granular look reveals disparities across regions and programmes offered.
 - **One-third in UP:** Almost one-third of the TEIs are concentrated in Uttar Pradesh.
 - In fact, Ghazipur, a district in UP with a population of around one lakh, has a whopping 300 TEIs.
 - Approximately half of the total TEIs are in the northern region with Rajasthan having the second-largest number of institutes.
- **Poor planning:** While there are about 17 recognised teacher education programmes, a majority of TEIs offer only B.Ed and D.El.Ed programmes.
 - This reinforces the point of poor planning as the country is actually facing a shortage of subject teachers in secondary schools and teacher-educators for whom a Master of Education (M.Ed) degree is a requisite (offered in less than 10 per cent of the TEIs).
- **Outdated curriculum:** Adding to the mix of challenges is an outdated teacher preparation curriculum framework that was last updated over a decade ago.
- **Regulation by multiple agencies:** On the governance front, multiple agencies have oversight on teacher education.

Way forward

- **Collect the credible data:** Any reform initiative must be built on credible data.
 - **No data available:** To date, there is no accurate real-time database of the number and details of teacher education institutes, students enrolled and programmes offered.
 - **How the data can be helpful?** Such data could be used to create a comprehensive plan for the sector, devising the optimal number of TEIs, their regional spread and programme-wise intake.
 - One cannot but underscore the **significance of proper planning**. The teachers will concur.

- **Develop the system of assessment and accreditation:** An accurate system of assessment and accreditation must be developed to ensure high-quality teacher education.
 - The National Accreditation and Assessment Council (NAAC), responsible for quality-standards in higher education, has only covered 30 per cent of all institutes since its establishment back in 1994.
 - Given the extensive landscape of the teacher education sector alone and current capacity constraints, it is necessary that multiple accreditation agencies be empanelled.
 - A **common accreditation framework** should be designed through a consultative process including all relevant stakeholders to facilitate its wider acceptability.
 - A transparent and credible system of accreditation could form the bedrock for weeding out substandard TEIs and propelling quality improvements in the rest.
- **The curriculum of global quality:** Core determinant of quality is the curriculum which must be regularly revamped and revised to ensure that our teacher education system is aligned to global standards.
 - Ideally, given that teacher education requires a good mix of curricular inputs and good-quality pedagogy, experts are rightly advocating for a shift **towards integrated four-year subject-specific programmes** to be housed in multidisciplinary colleges and universities.
 - In the first phase, these may be initiated in select central and state universities.
 - **Potential to outsource teachers:** This could also potentially serve as an avenue for India to outsource its surplus high-quality teachers to **over 70 countries that face a teacher shortage.**
- **Administrative will and execution:** Finally, reforms must be driven by administrative will and executed through a **well-established governance mechanism**, clearly establishing **ownership and accountability** for set work streams across multiple agencies.
 - The draft National Education Policy presents a ray of hope.
 - Its vision to restore **integrity and credibility** to the teacher education system needs to be translated into effective action.

Conclusion

India is estimated to have the largest workforce within the next decade. This means that a population bulge is on the cusp of entering the higher education ecosystem now. The pressing need of the hour is to focus on providing the best quality teacher education to those who aspire to build the future of this country.

13. China's high-tech battle against COVID-19 (GS-2)

Role of technology

- **'Close Contact Detector':** It is a platform for the **public to detect if someone has had close contact with a person confirmed or suspected to have been infected** in the recent past.
 - It pays particular attention to public transport records, including trains and flights
 - It can be accessed via popular mobile apps including Alipay, WeChat and QQ

Health QR code system: In Hangzhou, a city famous for its technology companies, e-commerce giant **Alibaba's Alipay app has rolled out a health QR code system.**

- It assigns color codes to citizens marking their risk level, drawing on their travel history and contacts.
- **A green code** means you can travel freely, **yellow** requires seven days of quarantine, while **red** requires a 14-day quarantine.

Beijing-based Face++: It has come up with a sophisticated **temperature screening tool** that can work in crowded places and screen thousands of people.

- It can detect an abnormal body temperature and alert authorities who can then do a second check on the person.
- It is now deployed in some of Beijing's subway stations and government offices.

China, which has invested billions of dollars in new **Artificial Intelligence technologies**, is deploying some of them in fighting the outbreak.

- **Drone with a camera** are being operated to tell people to wear masks.
 - Drones are being used to transport medical samples and conduct thermal imaging.
 - Two other prominent **AI players, Baidu and SenseTime**, are helping police identify people who aren't wearing masks in public places and offices.
 - In northwestern Yinchuan, authorities have deployed drones **armed with loudspeakers** – reminding residents to keep a

distance from each other and to wear masks – and to spray sanitisers.

- In Sichuan province, doctors are using a new **5G telecom network to help remote hospitals** – as well as overburdened doctors in the Hubei province epicentre – promptly assess CT scans to detect COVID-19 cases.
- Food delivery app Meituan and e-commerce giant JD have deployed autonomous vehicles for “**contactless**” deliveries to hospitals and high-risk areas.
- **COVID-19 app:** It tells people whether they have been in close contact with anyone confirmed infected, based on flight and train records.

Schools shut but classes continue

- Technology is also helping school children. Their schools remain closed but classes haven't stopped, with millions of students receiving lessons every day through live-streaming apps.

Concerns

While these new tools may be considered efficient – and perhaps necessary during a health crisis – they have prompted concerns about privacy.

- Chinese media have reported of **numerous cases of wrong codes being assigned**, preventing many low-risk citizens from using public transport or going to work.
- Many of these health apps require users to register with their name, national identification number and phone number. Authorities have also sourced data from phone carriers, health and transport agencies and state-owned firms.
 - There is **little transparency on how the government plans to cross-check the data**, and there have been reports about personal **health data being leaked on the internet**.

There's the added fear that it could exacerbate paranoia and **lead to discrimination against coronavirus patients**.

Critics say China could use the health crisis as a justification to **expand its already vast surveillance system**

Conclusion

- Thus, the new technologies are aiding in the fight to curb the transmission of coronavirus.

14. Sedition

Origin of sedition law in modern India

- The law was originally drafted in 1837 by Thomas Macaulay, but was inexplicably **omitted when the IPC was enacted in 1860**.
- Section 124A was inserted in 1870 by an amendment introduced by Sir James Stephen.
- It was enacted to silence the Indian people by the colonial rulers. The law was mainly used against Indian political leaders seeking independence from British rule.
- It was one of the many draconian laws enacted to stifle any voices of dissent at that time.

Definition

Section 124A IPC states: "Whoever, 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, shall be punished with imprisonment for life, to which a fine may be added; or, with imprisonment which may extend to three years, to which a fine may be added; or, with fine."

According to the law, disaffection includes disloyalty and all feelings of enmity. However, disapprobation (criticism) of the **measures or administrative action** of the government to obtain their alteration by **lawful means is not an offence**.

It is classified as "**cognisable**" and "**non-bailable**" – the accused cannot get bail as a matter of right, but is subject to the discretion of the session's judge.

Pre-independence Cases

Queen Empress vs. Jogendra Chunder Bose & Ors. (1891)

- The British government enacted the Age of Consent Act which raised the age of consent from ten to twelve years.
- A vernacular by the name of **Bangobasi** was a weekly newspaper which had a large circulation in Bengal; its name meant "**Citizen of Bengal**".
- After the act was passed the newspaper published articles attacking the Age of Consent Act as being opposed to Hindu traditions and morality.
- As a **consequence of publication of the offending articles**, the proprietor, editor, manager and printer of Bangobasi were all **charged by the government for sedition under Section 124A before the Calcutta High Court**

Bal Gangadhar Tilak

- During his lifetime, he was tried for Sedition Charges three times by the British rulers -in 1897, 1909 and 1916.
- In **1897**, Tilak was sentenced to 18 months in prison for inciting the people against the British.
- It was the **1909** sedition case, which is worth recalling.
 - Prafulla Chaki and Khudiram Bose, threw a bomb on a carriage at Muzzafarpur, to kill the Chief Presidency Magistrate Douglas Kingsford of Calcutta, but erroneously killed two women traveling in it. While Chaki committed suicide when caught, Bose was hanged.
 - Tilak, in his paper **Kesari**, defended the revolutionaries and called for immediate Swaraj or self-rule. The Government swiftly charged him with sedition.

Gandhiji (1922)

- He had written three 'politically sensitive' articles in his **weekly journal Young India**. He was jailed on the charges of sedition. He was sentenced to a six-year jail term.
- Gandhi famously denounced the law against sedition in the court: "Section 124A under which I am happily charged, is perhaps the prince among the political sections of the IPC designed to suppress the liberty of the citizen."

Post-independence

1. **Kedarnath vs. State of Bihar (1962)**

- The Constitution bench of the Supreme Court explained the amplitude of sedition for the first time in 1962 in the case of **Kedarnath vs. State of Bihar (1962)**. The judgment went into the issue of whether the law on sedition is consistent with the fundamental right **under Article 19 (1) (a)** which guarantees each citizen's freedom of speech and expression.
- So, as per the Constitution Bench of the Supreme Court, a person can be charged with sedition **only if there is incitement to violence in his speech or writing or an intention to create disorder**.
- Supreme Court in this case **upheld the constitutional validity of S. 124A** however with certain caveats of safeguards.
- The Supreme Court laid down that every citizen has a right to say or write about the government, by way of criticism or comment, as long as it does not "incite people to violence" against the government established by law or with the intention of creating public disorder.

And what is not sedition?

- The court ruled that **disapproval of the measures of government with a view to their improvement or alteration** by lawful means is not sedition.
- It held that “comments, however strongly worded, expressing disapprobation of actions of the Government, without exciting those feelings which generate the inclination to cause public disorder by acts of violence” **would not attract the penal offence.**
- The court added that “**commenting in strong terms upon the measures or acts of Government**, or its agencies, so as to ameliorate the condition of the people or to secure the cancellation or alteration of those acts or measures by lawful means, that is to say, without exciting those feelings of enmity and disloyalty which imply excitement to public disorder or the use of violence”, is not sedition.

15. Balwant Singh v State of Punjab (1995)

- In 1995, the Supreme Court, in Balwant Singh v State of Punjab, acquitted persons from charges of sedition for shouting slogans such as “**Khalistan Zindabaad**” and “**Raj Karega Khalsa**” outside a cinema after Indira Gandhi’s assassination.
- Instead of looking at the “tendency” of the words to cause public disorder, the Court held that mere sloganeering which evoked no public response did not amount to sedition, for which a more overt act was required; the **accused did not intend to “incite people to create disorder” and no “law and order problem” actually occurred.**

Recent examples

- A 43-year-old man was charged with sedition **after he allegedly chanted pro-Pakistan slogans** before the mini Vidhan Soudha at Kundapur in Karnataka.
- The police arrested a school principal and a parent in Bidar, Karnataka, for an allegedly seditious and **inflammatory play against the Citizenship (Amendment) Act (CAA).**

Arguments against Section 124A

- It **stifles the democratic right of people to criticize** the government.
 - Sedition leads to a sort of unauthorised self-censorship, for it produces a **chilling effect on free speech.**
 - It has been **used arbitrarily to curb dissent.** In many cases the main targets have been writers, journalists, activists who question government policy and projects, and political dissenters.

The massive levels of poverty, poor health care, unemployment, malnourishment and poor policies leading to farmer’s suicide – justifies expressing dissent and disenchantment against government openly.

The **press should be protected so that it could bare the secrets of government and inform the people.** Only a free and unrestrained press can effectively expose deception in government.

Legislation exists to deal with unlawful activities and armed movements. There is no need to criminalize words spoken or written.

Arguments in favor of Section 124 A

- The **Law Commission of India** had undertaken a careful re-examination of Section 124A. In its **42nd report, published in 1971**, it wanted the section to be extended to include disaffection towards the Constitution of India, Parliament and state legislatures and the administration of justice. It also wanted the punishment to be reduced to a maximum of seven years.
- We cannot forget that dozens of districts in different states face a Maoist insurgency and rebel groups virtually run a parallel administration. These groups openly advocate the overthrow of the state government by revolution. Against the backdrop of this stark reality, the abolition of Section 124A would be ill-advised.
- It is used to combat “anti-national, secessionist and terrorist elements”.
- There is no data on the number of complaints that have been filed under this section in different states. What were the seditious utterances or activities? How many persons have been convicted? Without an analysis of the empirical evidence on the implementation of this section, it would be perilous to abolish it as an outdated colonial provision.

Sedition laws in international jurisdiction

- Sedition was viewed as a draconian law and was revoked in the United Kingdom in 2010.
- In Australia, following the recommendations of the Australian Law Reform Commission (ALRC) the term sedition was removed and replaced with references to ‘urging violence offenses’.

How can we tackle this problem?

- First, all speech-related offences **should be madeailable offences**; this would lessen the harmful impact of using arrest and custody as a way of harassing anyone exercising their rights under Article 19(1) (a).
- Second, the **offences should be made non-cognisable** so that there is at least a judicial check on the police acting on the basis of politically motivated complaints.
- Third, in the case of hate speech, it is important to raise the **burden of proof** on those who claim that their sentiments are hurt rather than accept them at face value.

- Fourth, it is crucial that **courts begin to take action against** those who bring malicious complaints against speech acts.
- The Judiciary can also set up a **search committee** in every State, and a particular judge of the High Court can take suo moto action on each sedition case being filed.
 - And if it is baseless, if it has been used to only intimidate the ordinary citizen expressing his views, it must be quashed without putting the onus on the citizen to come to the court.

Conclusion

- Experience has shown us that sedition law on the statute book has been misused and abused
- Even if new laws are legislated or existing laws are removed it can still be distorted. So it is time the judiciary starts acting and the gaps in the law are addressed.

16. Initiatives Launched during India Smart Utility Week 2020

Why in News

Recently, the **India-European Union Flagship Call on Integrated Local Energy Systems** was announced at **India Smart Utility Week 2020**.

- Additionally, **Sweden and India** have also announced the **India-Sweden Collaborative Industrial Research & Development Programme** during the event.

India Smart Utility Week 2020

- India Smart Grid Forum (ISFG) has been organising its flagship **annual** event, India Smart Grid Week (ISGW) **since 2015**. It has been renamed as **India Smart Utility Week (ISUW) in 2019**.
- It is considered as **one of the top five international events on Smart Grids and Smart Cities**.
- ISUW 2020 will be organised as an International Conference and Exhibition on Smart Energy and Water for Smarter Cities.
- It will bring together the world's leading smart energy experts and researchers to discuss trends, share best practices and showcase next-generation technologies and products in smart energy and smart cities domains.

India-European Union Flagship Call on Integrated Local Energy Systems

- The partnership between Indian and **European Union** will help to **strengthen cooperation in energy research and innovation**, mainly in **renewable energy** and its integration in the energy system.
- It will also help to find solutions encompassing local integration across various energy vectors and increase the share of renewables in the energy mix and high energy efficiency.
- The programme is in line with both the European Union's and India's involvement in **Mission Innovation (MI)**.

Mission Innovation

- Mission Innovation (MI) is a **global initiative of 24 countries and the European Commission** (on behalf of the European Union) working to reinvigorate and accelerate **global clean energy innovation** with the objective to **make clean energy widely affordable**.
- MI was announced at **COP21** on November 30, 2015, as world leaders came together in **Paris to commit to ambitious efforts to combat climate change**.



India-Sweden Collaborative Industrial Research & Development Programme

- India-Sweden Collaborative Industrial Research & Development Programme is a **collaborative programme on Smart Grids** at a collective investment of **5 Million US \$** which will help to transform the clean energy sector into a secure, adaptive,

sustainable and digitally-enabled ecosystem and provide reliable and quality energy for all.

- It is a **joint Programme**, co-funded by the Indian Department of Science & Technology (DST) and the Swedish Energy Agency.
- It aims to bring together world-class expertise of Sweden and India to **address challenges in the area of Smart Grids**.
 - A smart grid is an electrical grid which includes a variety of operation and energy measures including smart meters, smart appliances, renewable energy resources, and energy-efficient resources.
- The project also aims to **develop technologies that can be commercialized after two years** through cooperation between India and Sweden.

17. The diplomatic cost

Context

The CAA and violence in Delhi have started to take its toll on India's secular foreign policy.

The US and other's reaction to the situation in India

- **Trump visit to India:** President Trump referred to India as a democracy which was peaceful and tolerant. He lauded freedom, rule of law, liberty and protection of human dignity, adding graphically that where India had the holy Ganges, it also had the Golden Temple and Jama Masjid.
 - **Assurance to the critics at home:** He thereby cleverly reassured critics at home, especially in the US Congress, that he was not ignoring the values the two great democracies shared.
 - However, as the situation in Delhi spun into violence the next day, in an untutored media interaction at the US ambassador's residence, he ducked questions about the CAA or Delhi riots, nonchalantly remarking it was "up to India" to deal with it.
 - This may have brought comfort to the Indian government but the world at large differed.
- **Response from the other countries:** Delhi had already exchanged angry words with Malaysia, Turkey and even Indonesia over their varied critique of India's handling of its Muslim minority when Iran joined the issue.

Iran's response to violence in India

- **Condemnation by foreign ministers:** Iranian Foreign Minister Javad Zarif condemned the “wave of organised violence against Indian Muslims”, adding that “Iran has been a friend of India”.
 - India’s foreign ministry summoned the Iranian ambassador to protest the inappropriateness of the minister’s remark.
- **The reaction by the Iranian Supreme Leader:** Soon after, Supreme Leader Ali Khamenei found the time, in the middle of the COVID-19 outbreak, to excoriate the Indian government.
 - Adding insult to injury, he appended #IndianMuslimsInDanger.
- **No reaction on China problems:** A facile response, can be that Iran is being hypocritical as it has not expressed remorse over the Chinese repression of Uyghurs.
- **The difference in India’s importance to China:** China is a veto-wielding member of the UN Security Council, which also sustains the Iranian economy despite US sanctions. On the other hand, India has a Shia population second only to that of Iran.

Relations with Iran

- **Two consulates in India:** There are two Iranian consulates in India in Hyderabad and Mumbai. Iran seeks the third one in Lucknow.
 - **Qom** also hosts many Shia students, particularly from the Kargil region.
- **Historic links between the two countries:** After Humayun’s exile in Iran (1530-40) before recovering the Indian throne, the Persian language and culture fired the cultural renaissance at the Mughal court.
 - **Religio-cultural heritage importance:** India is important for Iran for its religio-cultural heritage, unlike China, which is needed for transactional and strategic reasons.
- **Two interrelated questions flow from this reasoning:**
 - 1. What is Iran’s importance for India and the trajectory of India-Iran relations over the last two decades?
 - 2. And why is Iran adopting this sharp tone over what the Indian government argues is an internal matter?
- **Convergence in the relations:** The closest India-Iran strategic convergence began in the 1990s, particularly after Kabul fell to the Taliban in 1996. These ties blossomed under reformist Iranian President Mohammad Khatami and Indian Prime Minister Atal Bihari Vajpayee.
- **Tehran Declaration:** In 2001, the two signed the Teheran Declaration. Khatami in his opening remarks said that Iran always admired India’s secular credentials and Vajpayee had maintained that tradition.
 - In 2003, Khatami was the chief guest at India’s Republic Day and a New Delhi Declaration was issued.
- **Deterioration in relations and impact of India-US relation:** The relationship began to slip as Iran’s clandestine **nuclear programme** and assistance from Pakistan’s rogue scientist A Q Khan was uncovered in mid-2003.

- **Impact of India-US closeness:** Concomitantly, India was drawing closer to the US and negotiating a nuclear cooperation agreement.
- The US used the nuclear issue to cause a cleavage as Indian and Iranian interests began seriously diverging.
- **Taliban factor:** In any case, the Taliban had been ejected from Afghanistan and US troops literally surrounded Iran, having in 2003 overthrown Saddam Hussein. Geo-strategy trumped diplomacy.

The US-Iran relation cycle

- **The nuclear deal with Iran:** Iran-US relations also went through a cycle, with President Barack Obama recalibrating US policy towards the Gulf and West Asia.
 - **Countering ISIS:** Calculating that without Iran, ISIS could not be countered, the US in 2015 endorsed the nuclear deal that P-5 and Germany negotiated to end the nuclear stand-off.
- **Missing warmth of the 1990s:** Although India-Iran relations after that returned to near normal as most US sanctions were lifted, the warmth of the 1990s was missing.
 - Iran was now beginning to extend its influence and role across Iraq and West Asia.
- **Maximum Pressure strategy of the US:** President Donald Trump in 2016 reversed US policy and since then “maximum pressure” has been applied on Iran via tightened sanctions.
- **India’s engagement with Saudi Arabia and UAE:** PM Modi also moved more forthrightly to engage Saudi Arabia and the UAE.
- **The fallout of the US strategy reversal:** A fallout of the US policy reversal has been an exacerbation of not only the Shia-Sunni split but a Sunni-Sunni split as Qatar and Turkey are with Iran.

Changing polity and increasing influence in the neighbourhood

- **Conservatives elected to power:** In Iran’s parliamentary election on February 28, extremely conservative members have been elected, the moderates having been vetoed by the Guardians Council earlier.
 - Turnout was a low 43 per cent, due partly to fear of the coronavirus.
- **Increasing influence in the neighbourhood:** Iran is even more isolated, though determined to resist US demands, due to communications being curtailed due to the virus.
 - **Relations with the Taliban:** It has good working relations with the Taliban and converging interests to see that US troops exit the region.
 - **The friendly government in Baghdad:** Iran is battling to ensure a friendly government in Baghdad, despite the killing of Major General Qasem Soleimani, by keeping militias aligned to it in play.

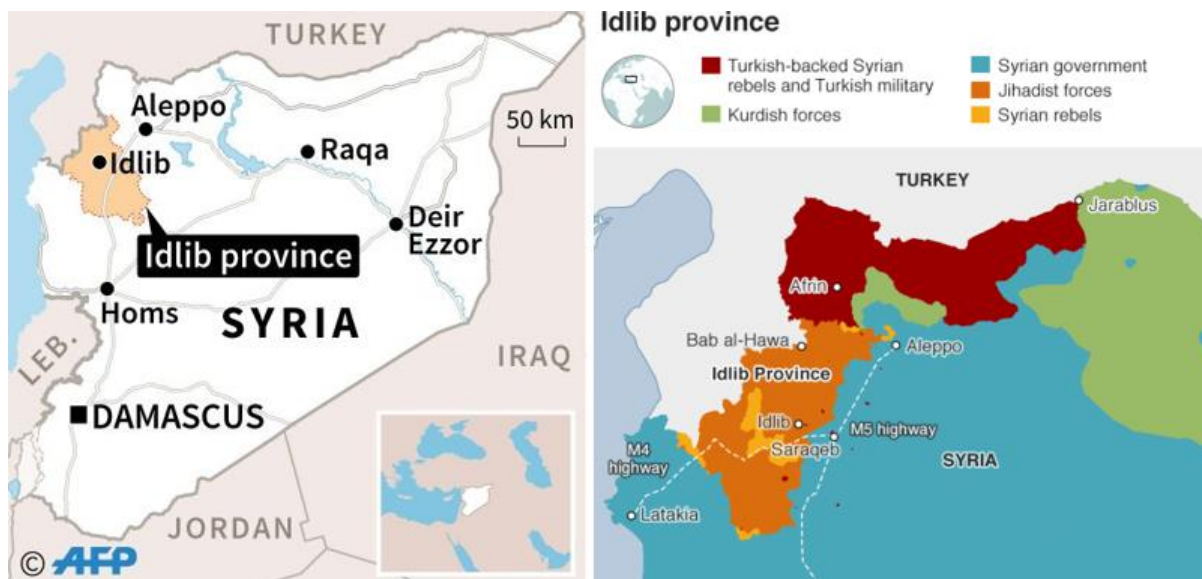
Conclusion

- **Perception of India:** Khamenei's tweet reflects the perception that India is in the US-Saudi-Emirati corner and of little use as long as Trump is president.
 - Growing closeness Abu Dhabi, Riyadh and Ahmedabad would have led Iran to this conclusion.
- **Leveraging India's dependence:** In the Islamic world, Iran by publicly defending Indian Muslims embarrasses the silent Saudis.
 - It also calculates that India needs access to Afghanistan through Chabahar to assist the Ghani government or influence developments there.

18. Idlib (Testing the power of personal touch)

What's so important about Idlib?

- It is a city in northwestern Syria
- Idlib is strategically important to the government of Syria. It borders Turkey to the north and connects highways running south from the city of Aleppo to the capital Damascus, and west to the Mediterranean city of Latakia.



Who controls the province?

- The province – along with parts of Hama, Latakia and Aleppo – is the last stronghold of the rebel and jihadist groups that have been trying to overthrow President Assad since 2011.

- The opposition once controlled large parts of the country, but the **Syrian army has retaken most of the territory over the past five years** with the help of Russian air power and Iran-backed militiamen.
- Now, the army wants to “liberate” Idlib.
- Idlib has been controlled by a number of rival factions, rather than a single group. But the dominant force is the al-Qaeda-linked jihadist alliance, Hayat Tahrir al-Sham (HTS).

Why did Syrian government forces target Idlib now?

- In 2017, **Russia and Turkey agreed to de-escalation in Idlib** and the province is out of the control of the Syrian government.
- When Syrian government forces overtook three other de-escalation zones elsewhere in Syria, Turkey approached Russia in 2018 with a proposal to establish a demilitarized zone in Idlib, in what came to be known as the **Sochi accord**.
- Turkey also proposed that it would disarm the Sunni militant group Hayat Tahrir al-Sham and remove it from the area, and agreed to reopen the crucial M4 and M5 highways.
- However, the situation escalated when **Turkey failed to deal with Hayat Tahrir al-Sham** according to the terms of the proposal with Russia.
 - Turkey supports the Syrian rebels, while Russia backs the Syrian government’s campaign to retake the area.

What is currently happening in Idlib?

- Fighting has intensified in Idlib in the last few weeks as a result of massive displacement, running into over half a million people.
- The forces of Syrian president Bashar Al Assad backed by Russian air-power has ramped up airstrikes in Idlib.

Idlib’s importance can be corroborated by two factors.

- One, that it essentially determines the faith and future of the Syrian Civil War.
- Second, that it is currently the biggest contention point between Syria and its neighbor Turkey.

Why is Idlib important for Turkey?

- Idlib's proximity to the Turkish border makes it not only important for the Syrian government, but also a cause of concern for Turkey.
- Since the war started in Syria, thousands of displaced Syrians have sought refuge in Turkey over the years.
- According to the latest known figures, Turkey presently hosts some 3.6 million refugees and is feeling the socio-economic and political strain of their presence in the country.
- More conflict in Idlib would only serve to displace more people, pushing them towards the Turkish border. Turkey has been witnessing a surge in hostility among its citizens towards refugees and a fresh wave of refugees will only exacerbate the situation.

What is the issue between Turkey and Russia?

- More than two dozen Turkish soldiers were killed in an air strike by Syrian government forces.
- The deaths mark a serious escalation in the **direct conflict between Turkish and Russia-backed Syrian forces** that has been waged since early February 2020.
- As crisis soared in Syria's Idlib and the possibility of a direct confrontation between Russia and Turkey was rising, the leaders of both the countries Mr. Putin and Mr. Erdogan **agreed to implement a ceasefire in Syria's rebel-held Idlib.**
- Both sides also agreed to establish a secure corridor along the strategically important M4 highway.

Conclusion

- The unpredictability in the region may have been suspended temporarily, but Syria remains on the brink.

19. How an MP is suspended from Lok Sabha by the Speaker?

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

What is the reason for suspending an MP?

The general principle is that **it is the role and duty of the Speaker of Lok Sabha to maintain order so that the House can function smoothly.** This is a daunting task even at the best of times.

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:**

“(1) 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.

“(2) 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.

“(3) 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.**

What happens in 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.

1. “Any Member so ordered to withdraw shall do so forthwith and shall absent himself during the remainder of the day’s meeting.”
2. 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.
3. 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.
4. The House may, however, by another motion, terminate the suspension.
5. Unlike the Speaker, however, the Rajya Sabha Chairman does not have the power to suspend a Member.

Need of the hour:

A **balance has to be struck**. There can be no question that the enforcement of the supreme authority of the Speaker is essential for smooth conduct of proceedings. However, it must be remembered that her job is to run the House, not to lord over it.

The **solution to unruly behaviour has to be long-term and consistent with democratic values**.

A step in that same direction could be to **discontinue the practice of herding people out of the visitors’ gallery when the House witnesses chaos**. It has been suggested that it may perhaps be a good idea to let them be – and **to also reserve a few blocks in the gallery for schoolchildren, who could see for themselves the conduct of Members**.

20. Super Seven

Why in News

Prime Minister of India on 8th March 2020 marked **International Women’s Day** by handing over control of his social media accounts to seven women achievers.

Super seven

PM Narendra Modi's social media accounts were handled by seven women from different fields on International Women's Day. A look at the achievements of these women:

Disability Rights

Malvika Iyer: An award winning disability rights activist, social worker and model, Malvika Iyer lost both arms in a bomb blast at Bikaner when she was 13

Sustainability

Sneha Mohandoss: Inspired by her mother, Chennai-based Sneha Mohandoss started an initiative called Foodbank India, aimed at eradicating hunger through food donation campaigns

Water Conservation

Kalpna Ramesh: The Hyderabad-based architect is focused on water conservation projects, especially rainwater harvesting, and spreads awareness on the responsible use of water

Self-sufficiency

Veena Devi: An organic farmer from Munger, Bihar, she has been cultivating mushrooms at home since 2013, setting an example in self-sufficiency. She gained recognition for cultivating 1 kg mushrooms under her bed

Tradition

Arifa Jaan: Kashmir-based Arifa Jaan is passionate about reviving Namda, the traditional craft of the region

Sanitation

Kalavati Devi: A mason from Kanpur, Uttar Pradesh, she collected funds from the public and built toilets for better hygiene in her locality

Handicraft

Vijaya Pawar: She promotes handicrafts from the Banjara community of rural Maharashtra

Key Points



- **Namda Traditional Art**
 - Namda is a local term used for **traditional felted wool floor coverings**, made out of a coarse variety of wool.
 - Namda comes from the root word **Namata (Sanskrit for woollen stuff)**.

- Namda making is **practised as a craft** in several cultures, especially in the countries throughout Asia, viz. **Iran, Afghanistan and India**.
- **Srinagar in Kashmir and Tonk in Rajasthan** are the two major namda making centres in India.
- In India, it is known to have come from Iran and was actively promoted in the state under the patronage of the Mughal monarchs and the Rajput royals.
- **Rich hues and exquisite designing** are the hallmarks of the handcrafted Namda.
- Unique themes and **floral patterns** provide the themes for these masterpieces and **flowers and leaves, buds and fruits** are the essence of the designs.
- **Banjara Community**
 - The word '**banjara**' is derived from **Vanaj** meaning **to trade**, and **Jara** meaning **to travel**.
 - Banjara (sometimes called **Gypsies**) is a **nomadic tribe of India** and were the vital supply chain for villages.



- They were **commercial nomads**, that is, hundreds of years ago they distributed salt and other essential items to interior villages, but they did have a connection with the land.
- The Banjaras were among many tribes that resisted the British attempt to seize their lands for plantations and enrol them as labour.
- Their constant revolt frustrated the British, and in 1871, the Banjaras and several other tribes were brought under the **Criminal Tribes Act**.
- The community was denotified in the 1950s but were listed under the **Habitual Offenders Act, 1952**.

- With **roots in Rajasthan**, Banjaras now live in several states and are known by different names like **Lambada or Lambadi in Andhra Pradesh, Lambani in Karnataka; Gwar or Gwaraiya in Rajasthan** etc.
- They are listed in various States as Scheduled Caste (SC), Scheduled Tribe (ST), Other Backward Class (OBC) and as Vimukta Jati/denotified tribes.
- The language of Banjara is known as “**Gorboli**” “**Gor mati Boli**” or “**Brinjari**” an **independent dialect**.
- The dialect falls in the category of **Indo-Aryan language**.
- **Foodbank India**
 - The **India Food Banking Network (IFBN)** is evolving an ecosystem for **food security interventions** to support thousands of feeding programmes in India by bringing the government, private sector and NGOs together to fight hunger and malnutrition in India.
 - **Vision:** To have a **hunger and malnutrition free India** which falls in line with the **Sustainable Development Goals (SDG 2- Zero Hunger by 2030)**.
 - It aims to achieve the vision by establishing a strong and efficient network of FoodBanks throughout the country so that **every district has access to at least one FoodBank by 2030**.
 - It is a **multi-stakeholder partnership** of global, domestic and local community partners who contribute voluntarily to support the humanitarian and development projects.

21. Sex-Selective Abortion

- **Context:** Recent case of infanticide in Tamil Nadu’s Usilampatti, historically notorious for its crude methods of killing female babies.
- The killing of one-month child took place through inhuman practice of feeding female infants with the toxic milk of a local herb

Sex-selective abortion is the practice of terminating a pregnancy based upon the predicted sex of the infant. It usually happens when a female child is detected during pregnancy.

Present Scenario

- Data on **sex ratio at birth (SRB)** culled from the Civil Registration System, show an alarming fall over the years. From 903 girls for every 1,000 boys in 2007, it dropped to 877 in 2016.
- Four States have an **SRB equal to or below 840**: Andhra Pradesh and Rajasthan (806), Bihar (837), Uttarakhand (825) and Tamil Nadu (840).
- **While infanticide may have come down**, sex selective abortion at scan centres continues as the preferred vehicle for parents obsessed with son preference.

Some of the reasons attributed to sex-selective abortion & female infanticide:

- Preference for Boys: In a **Patriarchal** society girls are generally considered liability until they are married off.
- Availability of latest technology
- Lack of effective implementation of existing laws designed against such crimes
- Absence of family planning tools
- Absence of Women in decision making

Impact of female foeticide:

- Decline in Sex ratio
- Early marriages of women often at the cost of their educational empowerment
- Trafficking of women for sexual work and marriage.
- Increased crimes against women like sexual harassment, lewd remarks against women, and instances of eve teasing.
- Increased fragmentation of land due to increase in male members in household
- Decline in moral & ethical standards of the society as a whole
- Perpetuation of Patriarchy and gender inequality

Pre-Conception and Pre-Natal Diagnostic Techniques Act

- The act was enacted in 1994 in response *to the decline in Sex ratio in India*, which deteriorated from 972 in 1901 to 927 in 1991
- **The main purpose of the act is** ban the use of sex selection techniques before or after conception and prevent the misuse of prenatal diagnostic technique for sex selective abortion.

Salient features of the act:

- It regulates the use of pre-natal diagnostic techniques, like **ultrasound** and **amniocentesis** by allowing them their use only to detect few cases.
- No laboratory or centre or clinic will conduct any test including ultrasonography for the purpose of determining the sex of the foetus.

- No person, including the one who is conducting the procedure as per the law, will **communicate the sex of the foetus** to the pregnant woman or her relatives by words, signs or any other method.
- **Advertisement** for pre-natal and pre-conception sex determination facilities will attract fine of Rs 10000 and imprisonment upto 3 years.
- The Act **mandates compulsory registration** of all diagnostic laboratories, all genetic counselling centres, genetic laboratories, genetic clinics and ultrasound clinics
- The Act was amended to bring the technique of pre conception sex selection and ultrasound technique within the ambit of the act.
- The 2003 amendment also empowered the **central supervisory board and state level supervisory board** was constituted.

Other measure taken by government to improve condition of females:

- **'Beti Bachao, Beti Padhao' campaign**
- The objectives of this initiative are to prevent of gender biased sex selective elimination, and to ensure survival and protection of the girl child. The strategies involved in this scheme are:
 - Implement a sustained Social Mobilization and Communication Campaign to create equal value for the girl child & promote her education.
 - Place the issue of decline in CSR/SRB in public discourse, improvement of which would be a indicator for good governance.
 - Focus on Gender Critical Districts and Cities low on CSR for intensive & integrated action.
 - Mobilize & Train Panchayati Raj Institutions/Urban local bodies/ Grassroot workers as catalysts for social change, in partnership with local community/women's/youth groups.
- Legislations for creating a **safe and secure environment for females**.
 - POCSO Act (Prevention of Children from Sexual offences)
 - Sexual Harassment at Workplace (Prevention, Prohibition and Redressal) Act
 - Changes in the Criminal Law on the recommendations of Justice Verma Committee
- Enhanced Focus on **Health & Education of Child**
 - Provision of better nutrition through ICDS, MDM,
 - Janani Shishu Suraksha Karyakaram
 - Scholarship schemes like Pragati
 - Special girl's school like Kasturba Gandhi Balika Vidyalayas
- **Political Empowerment:** Reservation of seats for women in Panchayats and Urban Local bodies are provided to enhance the decision making powers of

women which leads to increased awareness among women about their rights especially reproductive rights

Way Forward:

- Need to ramp up awareness building exercises
- Use technology to monitor every single pregnant woman right down to taluk levels until at least one year after birth.
- Stricter enforcement of the PCNDT act
- Reservation for women in State Legislative Assemblies and Parliament

Conclusion

While punitive aspects might offer a measure of deterrence, true change can only be brought about by a change in attitude.

Connecting the dots

- Reproductive rights of women
- Medical Termination of Pregnancy Act and its recent amendments

22. For a universal status of personhood (GS-2)

Context:

- The series of judgments delivered by the Gauhati High Court over the governance of the Foreigners Tribunals in Assam.

Background:

- **The Foreigners Act, 1946:**
 - The act, which was enacted by the colonial government to regulate migration into India, defines **a foreigner as any person who is not a citizen of India.**
 - The act **accords to the government wide-ranging powers** to control the entry, exit, and movement of foreigners to and within the territory of the country. The Foreigners Act empowers the Indian government to detain a person until deportation back to their country of origin.
- **The Foreigners' Tribunals (FT):**
 - **The Foreigners (Tribunals) Order, 1964** was issued by the Central Government under The Foreigners Act, 1946.
 - The Foreigners' Tribunals, which work as **quasi-judicial bodies**, are tasked to furnish opinions on whether persons referred to them were "foreigners"

or not within the meaning ascribed to the term under the Foreigners Act, 1946.

Details:

- **The Assam Accord of 1985** was a Memorandum of Settlement (MoS) signed between representatives of the Government of India and the leaders of the Assam Movement.
 - The agreement was a product of a student-driven movement against **large scale immigration into Assam from Bangladesh.**
- **Clause 5 of the Assam Accord** deals with the issue of foreigners, that is, detection of foreigners in Assam, deletion of their names from the voters' list and their deportation through practical means.
 - Immigrants who entered Assam till December 31, 1965, were to be granted citizenship with voting rights.
 - Foreigners who came to Assam **between January 1, 1966, and March 24, 1971**, shall be detected as per the provisions of the Foreigners Act, 1946 and the Foreigners (Tribunals) Order 1964. The accord states that the names of the persons so identified, **ought to be deleted from the electoral rolls and require them to register as foreigners** following the Registration of Foreigners Act, 1939.
 - The pact requires the government to identify those who came into Assam on or after **March 25, 1971**, and expel them.
- To implement the provisions under the Assam accord, in 1997 the electoral rolls were revised in Assam and more than three lakh individuals were **marked as doubtful voters** and nearly two lakh people have been referred to the FTs.
- Many of the **verdicts of the FTs have been appealed against in the Gauhati High Court** which has ruled on these petitions.

Concerns:

- **The burden of proof:**
 - **Section 9 of the Act** states that, where the nationality of a person is not evident, the **onus of proving whether a person is a foreigner or not, shall lie upon such person.**
 - Ordinarily, under the **Indian Evidence Act of 1872**, the burden of proof in a court of law lies on the person who seeks to make a claim or assert a fact. Going by this logic since it is the government that claims a person as a deemed foreigner, in case of the FTs, the burden of proof ought to be on the government.
 - Previous attempts to correct the oppressive nature of the burden placed on the deemed foreigners have been struck down by the judiciary.

- **In 1983, the Union government introduced the Illegal Migrants (Determination by Tribunal) Act.** This law, overriding the Foreigners Act, subtly shifted the onus to prove citizenship from the individual to the government. But, in July 2005, the Supreme Court, in **Sarbananda Sonowal vs Union of India**, **declared the legislation unconstitutional.** The SC stated that migration into Assam constituted “external aggression” against the State, and, therefore, that the Central government had violated Article 355 of the Constitution.
- **Documents required:**
 - The petitioners in the FTs are required to produce documentary evidence establishing that their parents or ancestors were present on Indian soil before March 25, 1971.
 - **A long list of documents are deemed inadequate** for establishing a person’s citizenship.
 - Documents like electoral photo identity cards, voters’ lists bearing petitioners’ names, land revenue receipts, certificates issued by the local Panchayat, bank passbooks, permanent account number (PAN) cards, and ration cards have been variously rejected as proof of citizenship.
 - The petitioners are also required to independently validate the documents **by securing the testimony of their issuing authorities.**
 - These **strict parameters place a huge burden on the petitioners.** The standard of proof foisted by the court is so disproportionate that it is virtually impossible for a petitioner to succeed in an appeal.
- **High conviction rate:**
 - Given the strict parameters in place, the **chances of success of an appeal against the FT verdicts are negligible.**
 - Out of 787 orders and judgments of the High Court between 2010 and 2019, in 97% of the cases, the petitioner before the court was confirmed as a foreigner.
- **The higher burden on the poor:**
 - Notably, most of the deemed foreigners are poor. In India, where the weakest and poorest are often denied access to basic goods, requiring individuals to produce documents to establish citizenship can by itself **represent an onerous demand.**
 - In instilling a regime where there is a presumption against citizenship, **the Foreigners Act denies the weakest their rights.**
- **Incommensurate consequences:**
 - The consequences of being confirmed as a foreigner include **consignment to detention camps and a pronouncement of a condition of statelessness.**

Way forward:

- **Reducing the burden of proof on deemed foreigners:**
 - Legal experts and academicians have suggested the outlining of a **sensible test** on what degree or level of proof ought to be sufficient to discharge the burden.
 - Perhaps, the **approach taken by the African Court on Human and Peoples' Rights** might serve as a guiding light.
 - The burden to establish citizenship might still lie on the individual, as per the Foreigners Act.
 - However once the deemed foreigner has produced a basic set of documents that make out a plausible claim, the onus ought to then shift to the State to rebut the evidence provided.
 - Similar observations have also been made by the Gauhati High Court as well when it held that **individuals should not be expected to establish "beyond reasonable doubt"** that they are citizens of India. Rather, they should be able to **show on a balance of probabilities that they are not foreigners**.
- **The concept of universal citizenship:**
 - The author of the article calls upon the people to recognize a **universal status of the personhood** of every human being **independent of their nationality**.

23. Scoring low (GS-2)

Context:

- **The Parliamentary Standing Committee on Human Resource Development's (HRD) report** on the 2020-2021 budgetary grants for school education and literacy submitted to the Rajya Sabha.

Details:

- The Parliamentary panel has identified **critical infrastructure gaps** in the government schools. It has used data available from **the Unified District Information System for Education (UDISE) 2017-18 survey**.
- The survey reports that only 56.45% of government schools had access to electricity and 56.98% a playground.
- The survey also notes the neglect of toilet construction for children with special needs, failure to build toilets for girls in a third of secondary schools and laboratories for higher secondary science students.

Concerns:

- Lack of basic facilities:

- Though there are some high-performing States, however even in politically well-represented Uttar Pradesh, almost 70% of schools lacked electricity. Manipur and Madhya Pradesh have reported less than 20% of government schools having access to power.
- India has **not been able to electrify a significant number of government schools.**
- Lack of intent:
 - The budgetary allocations have observed a **27% cut over the budgetary proposals** made by the School Education Department. This even though public expenditure on education has been rising yearly.
 - Notably, the department had **only spent 71% of revised estimates** by December 31, 2019.
 - The **tardy progress on important facilities**, despite the projects having been sanctioned, shows the **low priority that school education is being accorded.** It speaks poorly of policy priorities of the government.
- Effect on learning outcomes:
 - Though India has a large private school system at the primary and secondary level, complementing the government-run schools. **The share of students in the 6 to 14 age group in government schools still stands at around 70%.**
 - While quantitatively India is inching closer to universal education, the **quality of its education has been questioned** particularly in its government-run school system.
 - The lack of appropriate infrastructure at government schools may further **impact the learning outcome of its students** and may also alienate students from government schools.
 - Given the comparatively higher fees structure in the private institutes, the poor have very few alternatives apart from government schools.
 - This would **severely affect India's ability to harness its demographic dividend.**

Way forward:

- **Prioritizing public school system:**
 - A **public school system that guarantees universal access, good learning and all facilities** has to be among the **highest national priorities.**
- **Mission mode approach:**
 - Similar to the launch of a '100-day programme' for education launched by the present government, focusing on the training of schoolteachers and opening of central schools, there is the need for a **mission-mode approach on school infrastructure.**
 - Basic infrastructure should be focused on, like electricity and toilets.
- **Co-operation and coordination:**

- The panel has recommended that the HRD Ministry **collaborate with the Ministry of New and Renewable Energy** to provide solar and other energy sources so that schools have access to power.
- **Government schemes like MGNREGA** can be utilized to build basic infrastructure for the schools.
- **Community participation:**
 - Community participation should be emphasized. Apart from contributing resources to the cause they can also help **monitor the progress and ensure accountability.**
- **Need for fund infusion:**
 - The government-run school sector needs a fund infusion. Given the criticality of the education, **Core schemes like the Samagra Shiksha Scheme should get additional funds.**
- **Inclusive approach:**
 - Given the stark differences in the statistics among the states and within the states, there is the need to ensure a balanced approach to ensure that **no school is left behind.**
 - Keeping in line with the spirit of Sugamya Bharat Abhiyan, the work should also involve toilet construction for children with special needs.
- **Focusing on all-round development:**
 - Given the increasing evidence of the **importance of physical activities for a child's development**, infrastructure like playground facilities should also be considered as basic infrastructure for schools.
 - Though it may be challenging to find attached playgrounds, the problem can also be overcome by identifying suitable commons that can be upgraded to accommodate students, while permanent arrangements are made.
 - This will also provide impetus to **government initiatives like Fit India Movement.**

Additional Information:

- Originally, education came under the state list of **the 7th schedule of the Indian constitution.**
- Through the **42nd Amendment Act of 1976** education was transferred from State to **Concurrent List.**
- Under the framework of concurrent powers, the Centre operates its schemes and sponsors several school education programmes covering the States, notably **Samagra Shiksha and the Mid-Day Meal scheme.**

24. 'States to be asked to invoke Epidemic Disease Act' (GS-2)

Context:

It was decided in a Cabinet Secretary meeting that states and Union Territories should invoke provisions of Section 2 of Epidemic Diseases Act, 1897, so that Health Ministry advisories are enforceable.

Details:

- The high-level Group of Ministers (GOM) was constituted to review the measures taken for the management of COVID-19 in India.
- The guidance provides critical considerations and practical checklists to keep schools safe. It also advises national and local authorities on how to adapt and implement emergency plans for educational facilities.
- The release noted that in the event of school closures, the guidance includes recommendations to mitigate against the possible negative impacts on children's learning and well-being.

Epidemic Diseases Act:

The Epidemic Diseases Act is routinely enforced across the country for dealing with outbreaks of diseases such as swine flu, dengue, and cholera.

History of the 1897 Epidemic Diseases Act:

- The colonial government introduced the Act to tackle the epidemic of bubonic plague that had spread in the erstwhile Bombay Presidency in the 1890s.
- Using powers conferred by the Act, colonies authorities would search suspected plague cases in homes and among passengers, with forcible segregations, evacuations, and demolitions of infected places.
- In 1897, the year the law was enforced, freedom fighter Bal Gangadhar Tilak was punished with 18 months' rigorous imprisonment after his newspapers Kesari and Mahratta admonished imperial authorities for their handling of the plague epidemic.

Provisions of the 1897 Epidemic Diseases Act

- The Act, which consists of four sections, aims to provide for the better prevention of the spread of Dangerous Epidemic Diseases.
- Section 2 empowers state governments/UTs to take special measures and formulate regulations for containing the outbreak. It reads: "Power to take special measures and prescribe regulations as to dangerous epidemic disease. –
 1. When at any time the State Government is satisfied that the State or any part thereof is visited by, or threatened with, an outbreak of any dangerous epidemic disease.
 - the State Government, if it thinks that the ordinary provisions of the law for the time being in force are insufficient for the purpose, may take, or require or empower any person to take, such measures and,

by public notice, prescribe such temporary regulations to be observed by the public or by any person or class of persons as it shall deem necessary to prevent the outbreak of such disease.

- It may determine in what manner and by whom any expenses incurred (including compensation if any) shall be defrayed.
- 2. In particular and without prejudice to the generality of the foregoing provisions, the State Government may take measures and prescribe regulations for –
 - The inspection of persons travelling by railway or otherwise, and the segregation, in hospital, temporary accommodation or otherwise, of persons suspected by the inspecting officer of being infected with any such disease.
- Section 3 provides penalties for disobeying any regulation or order made under the Act. These are according to section 188 of the Indian Penal Code (Disobedience to order duly promulgated by public servant).
- Section 4 gives legal protection to the implementing officers acting under the Act.

Issues:

- The Epidemic Diseases Act of 1897 promulgated over a century ago was initially legislated by our colonial masters in an effort to combat the then deadly bubonic plague.
 - The Act in its use was widely condemned in the India Journal of Medical Ethics.
- The Act, last amended in 1956, lacks in most basic criterias when compared to comparable legislations as available in other democracies.
 - In **England**, the Public Health (Control of Disease) Act 1984 was promulgated with an aim of creating specific delineated roles of different authorities to combat infectious diseases.
 - The act provides for notification of an infectious disease, the role and responsibilities of healthcare workers in identifying contagious individuals and a clear hierarchical chain in which the said identification is to be reported.
 - It further provides for measures in which the said disease is to be controlled and as mentioned above delineates specific roles, responsibilities and powers on specific authorities in the time of a crises.
 - These include responsibilities undertaken by the local authorities right up to the national level.
 - The responding authorities thus have a pre-planned format within which to operate.

- This undercuts the scope for confusion and jurisdictional issues amongst different state authorities in the time of crisis.
- The Public Health Services Act from the United states, also like its English counterpart creates an administrative super structure through which any public health emergency must be routed.
 - The act prepares for a nationwide epidemic by anticipating the need for additional manpower by creating a reserve corps to supplement commissioned corps on short notice.
 - Another key aspect of the act is clear and to the point separation of the roles of the center and states.
- One of the more obvious defects of our Epidemic Diseases Act of 1897, which gives no clarity of how a public health emergency would impact the inherent federal structure of our constitution.
- Being a pre-independence act the same fails to provide any clarity on how the responsibility of controlling a nationwide epidemic is to be shared between the different states and the Union.
- While the above mentioned foreign legislations acknowledge the need for set and proven administrative channels coupled with detailed and well-rehearsed protocols, India's one-page, four-section act is wholly incapable of providing adequate legislative backing towards dealing with even a minor Public Health Emergency.
- The Act by its very nature provides for an abrupt knee-jerk reaction. Instead of anticipating that a public health emergency would require a robust and preplanned administrative framework, the Act merely gives the power to state authorities to subvert any and all existing laws and regulations while dealing with an epidemic.
- There is no provision to delineate specific roles to certain organisations, nothing to mandate any sort of pre planning or provide for any specific performa that the local or state level health or other authorities may follow in the case of an emergency.
- The Act even fails to clarify when and how a particular disease is to be declared as an epidemic, necessitating the evocation of the Act.
- Without a proper and coherent command and control superstructure what would result is a state by state response, with each state differing in its strategy to contain and overcome a public health emergency.
- Each state would have to come up with administrative and health protocols on the fly whilst in the midst of a crisis.
- There are currently some schemes operating at the national level like the Integrated Disease Surveillance Project which aims to monitor and provide rapid response to epidemic situations, however the same lack any legislative backing. Being based on executive instructions they are devoid of adequate powers to contain and handle an epidemic.

Way forward:

- There is no law for example to sanctify the isolation and cordoning off of entire regions, nothing to mandate compulsory hospitalisation, no expert authority to oversee the logistics of the kind of shut downs that would result from even a mediocre epidemic.
- What is further required is a cohesive legislation which relates to areas outside of immediate treatment.

Note:

- At present, at least 60 COVID-19 cases have been confirmed in India.
- The Indian Medical Association (IMA) said that sharing data of infected people on a daily basis with the public has created panic across the country.
 - It appealed to the government to “classify the data” of the pandemic and take appropriate action with “clinical precision.”
- The International Federation of the Red Cross (IFRC), UNICEF and the World Health Organization (WHO) have also issued new guidance to help protect children and schools from transmission of the COVID-19.

25. Bills on bankruptcy code, mineral law get RS nod (GS-2)

Context:

The Rajya Sabha has passed two Bills – the Insolvency and Bankruptcy Code (Amendment) Bill, 2020 and the Mineral Laws (Amendment) Bill, 2020.

Insolvency and Bankruptcy Code (Amendment) Bill, 2020:

- The Insolvency and Bankruptcy Code (IBC) Amendment Bill, that will help ring-fence successful bidders of insolvent companies from the risk of criminal proceedings for offences committed by previous promoters, has already been passed by the Lok Sabha.
- The Bill replaces an ordinance. The amendments were earlier introduced as ordinances. Now after the Parliament session begun the ordinance was introduced as bill. And the bill has now been passed in the parliament.
- The IBC, which came into force in 2016, has already been amended thrice.
- The Minister said that the need for amendment in the IBC arose because of the changing requirement and requirement of fine tuning the law.

Key Features:

- **The threshold for certain creditors for initiating resolution process:**
 - The Code allows the creditors to initiate an insolvency resolution process if the amount of default by the debtor is at least one lakh rupees.

- The Ordinance adds an additional requirement for certain classes of financial creditors for filing the application. T
- These classes include real estate allottees and security or deposit holders represented by a trustee or agent. The application by these creditors should be filed jointly by at least 100 such creditors or 10% of their total number, whichever is less.

Supply of critical goods and services not to be discontinued:

- The Ordinance mandates that the supplies of goods and services considered critical by the resolution professional cannot be discontinued during the moratorium period.
- This applies to goods and services that are considered critical to protect and preserve the value of the debtor and manage its operations as a going concern.
- Suppliers of critical goods and services can stop supplying if: (i) the debtor has not paid dues arising from the supplies during the moratorium period, or (ii) in certain other circumstances as may be specified.

Licenses and permits not to be terminated due to insolvency:

- The Ordinance states that any existing license, permit, registration, or clearance given by any government authority to the debtor will not be suspended or terminated due to insolvency.
- This provision will be applicable as long as the debtor does not default in the payment of current dues arising for the use or continuation of such licenses or permits.

Liabilities for prior offences:

- The Ordinance states that the company will not be liable for any offence committed prior to the commencement of the insolvency resolution process.
- Further, the Ordinance provides immunity to the company from actions against their property in relation to such offences.

Immunity to the company will be given only if the resolution plan results in a change in the management or control of the company.

Appointment of the Interim Resolution Professional and commencement date:

- Under the Code, the insolvency commencement date is the date on which an application for corporate insolvency resolution process (CIRP) is admitted.
- An Insolvency Resolution Professional (IRP) is required to be appointed within 14 days from the date of admission of the application for CIRP.
- The date of appointment of the IRP is treated as the insolvency commencement date.

- The Ordinance states that the IRP must be appointed on the date of admission of the application, which will be considered as the insolvency commencement date.

The Mineral Laws (Amendment) Bill, 2020

- Parliament passed The Mineral Laws (Amendment) Bill, 2020 for amendments in Mines & Mineral (Development and Regulation) Act 1957 and The Coal Mines (Special Provisions) Act, 2015. Rajya Sabha passed the bill today while Lok Sabha already passed this bill on 6th March, 2020.

Key Features:

- The amended provisions clearly provide that companies which do not possess any prior coal mining experience in India and/or have mining experience in other minerals or in other countries can participate in auction of coal/lignite blocks.
 - This will not only increase participation in coal/lignite block auctions, but also facilitate the implementation of FDI policy in the coal sector.

The companies which are not 'engaged in specified end-use' can also participate in auctions of Schedule II and III coal mines.

- The removal of the end use restriction would allow wider participation in auction of coal mines for a variety of purposes such as own consumption, sale or for any other purpose, as may be specified by the Central Government.

The Bill also allows prospecting licence-cum-mining lease (PL-cum-ML) for coal/lignite which increases the availability of coal & lignite blocks, and coal blocks of varying grades in a wide geographical distribution will be available for allocation.

The successful bidders/allottees have now been entitled to utilize mined coal in any of its plants or plants of its subsidiary or holding company.

A provision has also been made for appointment of designated custodian for management of the mines, apart from Schedule II mines, which have come under production and whose vesting/ allotment order has been cancelled.

With the amendments, environment and forest clearances along with other approvals and clearances shall automatically get transferred to the new owners of mineral blocks for a period of two years from the date of grant of new lease.

- This will allow new owners to continue with hassle free mining operations.
- During the period, they may apply for the fresh licence beyond the period of two years.

The auction of lease of mines can now be started before expiry of lease period.

- It will enable the state government to take advance action for auction of mineral blocks so that the new lease holder could be decided before the existing lease gets expired.
- This will help in seamless production of minerals in the country.

The new provisions will also augment the exploration of the deep seated minerals and minerals of national interest by allowing Non Exclusive Reconnaissance Permit (NERP) holders to apply for composite licence or Mining Lease (PL-cum-ML).

Various repetitive and redundant provisions of MMDR Act and CMSP Act have also been omitted for Ease of Doing Business.

The Bill replaces the ordinance for amendment of the MMDR Act 1957 and CMSP Act which was promulgated on 11th January 2020.

26. Temples of critical thinking and debate (GS-2)

Context

- QS World University Subject Rankings, 2020 was released recently.

QS World University Rankings

- It is an annual publication of university rankings by Quacquarelli Symonds (QS).
- QS is a British company specializing in education and is most often known for its rankings of educational institutions.
- Its rankings are **considered among the top influential rankings in the world**, and the ranking is, therefore, a rather prestigious certification to acquire.
- QS uses four key metrics to compile the rankings including
 - Academic Reputation
 - Employer Reputation
 - Citations Per Paper
 - The h-index which measures how productive an institution's research faculty are.

However, the precise weighting of each metric varies by subject to reflect differing publication cultures across disciplines.

Ranking

- **Technology**
 - In terms of institutes and subjects, India's highest-ranked programs included **Indian Institute of Technology (IIT) Bombay's** Mineral & Mining Engineering program at 41st rank globally, shared jointly with the **University of Delhi's Development Studies program**.

- Top-50 ranks have also been attained by **IIT Kharagpur** (46) for Mineral & Mining Engineering, **IIT Delhi** (49) for Electrical & Electronic Engineering and **IIT Bombay** (50) for Chemical Engineering.
- **IIT Bombay** emerged with more top-100 ranks than any other Indian university in QS World University Rankings by Subject 2020, followed by **IIT Delhi** with five programs in top-100 list.

Business and management studies subject category

- Both Indian Institute of Management (IIM) Ahmedabad and IIM Bangalore were ranked in the 51-100 band.

Global Ranking

- Globally, **Massachusetts Institute of Technology** (MIT) emerged as the world's best-performing institution, achieving 12 number-one positions, followed by **Harvard University** with 11 number-one positions and **University of Oxford** with eight top ranked subjects.
- **QS's top 10 in overall terms** include five American universities (MIT, Stanford, Harvard, Caltech and Chicago), **four British universities** (Oxford, Cambridge, UCL and Imperial College) and **one Swiss university** (ETH Zurich).
 - All the **five American names** in this list are private universities, while the **British and Swiss institutions** are public universities which have nonetheless enjoyed significant autonomy from governmental control over decades.

How were they able to achieve this?

1. One common factor behind the success of the topmost universities is the **freedom with which they operate**.
 - They have been major centers of innovation in teaching and research; thanks to **independence from bureaucratic or corporate meddling and political intervention** by parties of the day.
 - They could remain centers of extraordinary excellence in a sustained way by according primacy to matters of the mind, i.e. intellectual ideas and solutions to problems, and avoiding becoming hostage to rigid thought.

All the **great universities of the world are ideologically pluralistic**, with a mix of right, left and center among their faculty and students.

- There is **no institutional line or official position** on any issue.
- Professors and students are free to choose whatever opinion they prefer.
- **No one is penalized for holding a pro- or anti- view** on social, economic, political, cultural or scientific matters.

The top universities are also excellent at attracting and retaining talent. They **hire professors very selectively, based on outstanding scholarly abilities**.

- They reject a large number of candidates for admission as students, and admit only the brightest and the most meritorious.
- This ruthless streak comes at the expense of social inclusion and access considerations.

Top universities **incentivize publication and citation of research** in an unforgivingly rigorous way.

- If an **Assistant Professor** does not produce brilliant publications in the most reputed journals of her field, she may lose her job and not get tenured as an Associate Professor.
- By insisting on tough standards which are never lowered or relaxed, these universities **promote a meritocratic culture as a habit**.

Big universities also **inculcate critical thinking, debating and writing abilities in their students**.

- They encourage students to look at issues through **interdisciplinary lenses** and to challenge their own professors. They award grades to students who are argumentative and who question conventional wisdom in the classroom and in assignments.
- This type of **interactive pedagogy** produces champion graduates who have a reputation for cutting-edge skills and knowledge in the job market compared to peers from second- or third-tier universities.

The China example

- A muscular push from the government of China with **massive state funding has propelled Chinese universities into the top tiers** in barely two decades.
- In the QS world rankings on overall basis, Tsinghua University is ranked number 16, Peking University is at 22, Fudan University is at 40, and Zhejiang University is at 54. This is a miraculous leap forward.

Concerns

- There is not even a single Indian university which is featuring in the QS ranking of the world's top 150 in overall parameters.
 - The Indian Institutes of Technology (IITs) of Bombay and Delhi are at the 152nd and 182nd places in the overall rankings, while IISc Bangalore appears at the 184th position.
 - There is much for India to learn from those who are miles ahead of us.

In India, the government is cash-strapped and lacks the kind of resources which the Chinese state deployed to pump-prime Chinese universities

Way forward

- The government's decision to identify 20 Institutes of Eminence (IOEs) which will get maximum autonomy from bureaucracy in order to climb up the world rankings is a step in the right direction.
 - The selected IOEs must innovate with new degree programmes, expanded variety of faculty members and digital learning platforms.

But India still has miles to go in higher education.

- Our viable path to world class universities are in the form of enlightened private philanthropy and borrowing best practices from established iconic universities.
- Avoiding politicisation, ideological rigidity and nepotism, and freeing our universities from excessive interference and over-regulation, are prerequisites for success.

27. The time is right for One Health science (GS-2)

Introduction

- The Nipah virus outbreak was thought to have come from fruit bats. These diseases, which “spillover” from animals to humans are referred to as **zoonotic diseases**, and represent more than 60% of emerging infectious diseases worldwide.
- The **destruction** of the natural environment, globalized trade, and travel and industrialized food production systems have created numerous pathways for new pathogens to jump between animals and humans.
- Understanding this critical intersection between human health, domestic and wild animal health and the environment requires a new integrated framework – a paradigm called ‘OneHealth’.

One Health

- ‘One Health’ is an approach to designing and implementing programs, policies, legislation, and research in which multiple sectors communicate and work together to achieve better public health outcomes.
- The areas of work in which a One Health approach is particularly relevant include **food safety**, the control of **zoonoses** (diseases that can spread between animals and humans, such as flu, rabies, and Rift Valley Fever), and **combatting antibiotic resistance** (when bacteria change after being exposed to antibiotics and become more difficult to treat).

Why do we need a One Health approach?

- Many of the same microbes infect animals and humans, as they share the ecosystems they live in. Efforts by just one sector cannot prevent or eliminate the problem. For instance, rabies in humans is effectively prevented only by targeting the animal source of the virus (for example, by vaccinating dogs).
- So to effectively contain it, a well-coordinated approach in humans and in animals is required.

Who makes the One Health approach work?

- Many professionals with a range of expertise who are active in different sectors, such as public health, animal health, plant health, and the environment are required to find a solution to the problem.
- To effectively detect, respond to, and prevent outbreaks of zoonoses and food safety problems, epidemiological data and laboratory information should be shared across sectors.
- Government officials, researchers and workers across sectors at the local, national, regional and global levels should implement joint responses to health threats.

Example- Kyasanur Forest Disease

- The concept of onehealth may be of recent origin but it was operationalized back in the late 1950s.
- A stellar example of OneHealth being operationalized helped discover the source of Kyasanur Forest Disease (KFD), a highly dangerous hemorrhagic fever more threatening than COVID-19.
- It took **pioneering interdisciplinary work to bring together diverse entities** like the
 - Rockefeller Foundation and
 - It provided the financial and technical support, including laboratory facilities
 - The Virus Research Centre (later the National Institute of Virology), Pune.
 - A team of dedicated researchers from the Virus Research Centre searched the forests of the Western Ghats for potential carriers and autopsied monkeys in their investigations into the cause of the disease.
 - The World Health Organization (WHO) and the Bombay Natural History Society.
 - **The bird man of India, Salim Ali**, supported by WHO funds, tagged migratory birds to rule out the possibility that they were carrying pathogens responsible for the disease in their cross-continental flights.

- This model of cross-sectoral collaboration did not set the tone for further research along similar lines or fructify into readying our public health system to address zoonotic diseases.

Range of permissions

- The regulatory framework for doing OneHealth research in India **with international collaboration** typically requires approvals from multiple authorities, including ICMR, the Ministries of External Affairs and Finance, Directorate General of the Armed Forces, National Biodiversity Authority, Committee for the Purpose of Control & Supervision of Experiments on Animals and State health authorities, among others.
- Additional **permissions are required from state forest authorities and biodiversity boards** for accessing biological resources within natural landscapes.
- Yes, there is a necessity for permission, but the range of permissions needed and the long waiting periods (ranging from three months to more than a year), **raises the issue of whether we are unwittingly hampering our ability to rapidly respond to emerging threats from infectious diseases.**

National Mission on Biodiversity and Human Well-being

- The mission aims to **explore the neglected links between biodiversity science and human well-being** across the sectors of health, economic development, agricultural production and livelihood generation, in combination with efforts to mitigate climate change and related disasters.
- One of the components of the mission **explicitly links biodiversity to human health through the OneHealth framework.**

Significance of OneHealth

The frequency with which new pathogens are emerging or old ones are re-emerging across the world are alarm calls for greater transparency, cross-country collaborations, and enhanced national infrastructure and capacity for integrated OneHealth science.

- The OneHealth program aims to encourage team science by having **networks of institutions collectively bid for grants to set up integrated OneHealth surveillance systems** across India at 25 sentinel surveillance sites in potential emerging infectious disease hotspots.
- In this manner, government and private institutions, across a range of disciplines, from virology to epidemiology, genomics to ecology, and social and behavioral sciences to veterinary and animal sciences can **collaborate to understand how zoonotic diseases can emerge, the threats they can pose, and the mechanisms by which the emergence or spread can be controlled.**

Conclusion

- Given our pioneering historical contribution to combat zoonotic diseases, and a robust institutional framework for biomedical research, **India has the opportunity to take the lead in combating the massive public health crisis posed by emerging infectious diseases.**
- An opportunity now exists for India to **leap-frog over the systemic and institutional barriers** that prevent an integrated OneHealth framework from being operationalized.

28. What is an 'Essential Commodity'?

Following reports of shortage and irrational pricing of hand sanitisers and masks, the union government has declared these items "essential commodities" until the end of June. It has notified an Order under the Essential Commodities Act to declare these items as Essential Commodities up to 30th June, 2020 by amending the Schedule of the Essential Commodities Act, 1955.

Why such move?

- The coronavirus pandemic has triggered panic buying of masks and hand sanitisers at many places around the world, including in India.
- The government's order has come in the wake of reports of a shortage of these commodities and a sudden and sharp spike in their prices, and the alleged hoarding of stocks by manufacturers.

What does the government's declaration mean?

- The Essential Commodities Act provides, "in the interest of the general public, for the control of the production, supply and distribution of, and trade and commerce, in certain commodities".
- The law was passed in 1955 to essentially protect consumers from unreasonable and exploitative increases in prices of commodities in times of shortage.
- It has been amended several times over the years, and made more stringent.
- Under the Act, the government can also fix the maximum retail price (MRP) of any packaged product that it declares an "essential commodity".

What kinds of items or products are generally classified as essential commodities?

- The government has sweeping powers in this regard. The Act defines an "essential commodity" as simply "a commodity specified in the Schedule".

- The Act empowers the central government to add new commodities to the list of Essential Commodities as and when the need arises, and to remove them from the list once the crisis is over or the situation improves.
- Over the years, a long list of items has been designated as essential commodities, including various drugs, fertilisers, cereals, pulses, sugar, edible oils, petroleum and petroleum products, and certain crops.
- In the present situation, the government can intervene to regulate the supply and pricing of masks and hand sanitisers, and also notify their stock-holding limits.

How do states and UTs implement these orders?

- They act on the notification issued by the Centre and implement the regulations.
- Anybody trading or dealing in the essential commodity, including wholesalers, retailers, manufacturers, and importers, is barred from stocking it beyond the specified quantity.

What if the retailers/traders/manufacturers do not comply?

- The purpose of designating any commodity as “essential” is to prevent profiteering at a time of extraordinary demand.
- Violators are, therefore, termed as illegal hoarders or black-marketeers who can be prosecuted.
- Besides penalties, the violation may lead to imprisonment for a maximum period of seven years.
- Agencies of state governments and UT administrations are empowered to conduct raids to catch violators.
- The government can confiscate excess stock hoarded by retailers/traders/manufacturers, and either auction it or sell it through fair-price shops.

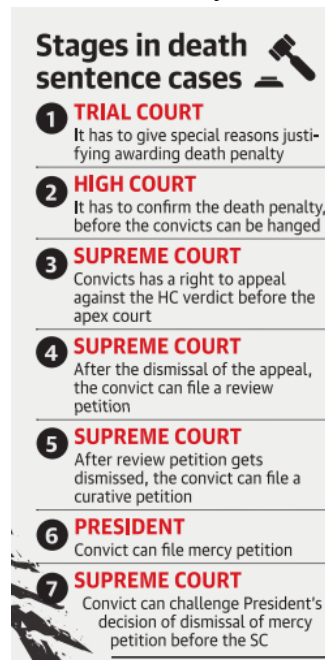
Impact on Corona curbing

- It is important to note that the designation of masks and hand sanitisers as “essential commodities” does not mean that the government considers them to be ‘essential’, in the literal sense, in the fight against COVID-19.
- Doctors and health experts have underlined that the use of masks is helpful only if you have symptoms yourself, or if you are caring for someone who has symptoms.
- The infection is spreading mostly through infected surfaces – and masks, especially the cheap surgical ones, can’t actually block the virus out.

29. Getting the hang of death penalty

Context:

- The hanging of the four convicts in the 2012 Nirbhaya gang-rape and murder case has been deferred multiple times, marked by apparent delaying tactics by the condemned prisoners.
- The debate over the death sentence has been going on for a long time. Those in favour of capital punishment see it as a deterrence against such types of crimes while others opine that it has not had any such effect.



Capital Punishment:

Capital punishment, also known as the death penalty, is a government-sanctioned practice whereby a person is put to death by the state as a punishment for a crime.

First initiative:

- In British India's Legislative Assembly, the first time an issue was raised regarding capital punishment was in 1931.
- It was then that one of the Members from Bihar sought to introduce a bill to abolish the death penalty for offences under the Indian Penal Code (IPC).
- However, this was defeated.
- At the time of Independence, India retained several laws put in place by the British colonial government, including capital punishment for various crimes under the IPC.
 - A crucial change in the law was made in 1955 when the Parliament repealed Section 367(5) of the Code of Criminal Procedure (CrPC), which

until then mandated the courts to record reasons where it decided not to impose a sentence of death for offences where the death penalty was an option.

- The CrPC was re-enacted in 1973 where several changes were made, notably to Section 354(3) mandating judges to provide special reasons for why they imposed the death sentence.

In 1967, the 35th Report of the Law Commission had argued for the retention of capital punishment in India.

- The report stated that retribution should not be understood as an “eye for an eye”, but in its refined form as a public denunciation of crime.
- It also stated that there are a category of individuals who are “cruel and wicked”, and are not capable of reform.
- A major reason stated in the report for the retention of capital punishment was the unique condition of India, and the society then prevalent.

About half-a-century later, the Law Commission, in its 262nd Report, highlighted that the death penalty does not serve the penological goal of deterrence any more than life imprisonment.

The commission, in its report published in 2015, recommended that the death penalty be abolished for all crimes other than terrorism-related offences and waging war against the State.

Rarest of rare cases

- The first legal challenge to the constitutionality of the death penalty came in the 1973 case of Jagmohan Singh vs State of Uttar Pradesh in which the petitioners argued that the death penalty was against the Constitution.
- The Supreme Court, however, found that the death penalty was a permissible punishment.
- This was followed by the 1980 landmark verdict of the top court in the Bachan Singh case where it upheld the constitutionality of the death penalty but confined its application to the ‘rarest of rare cases’, to reduce the arbitrariness of the penalty.

International scenario

- Internationally, countries are classified on their death penalty status based on four categories: abolitionist for all crimes, abolitionist for ordinary crimes, abolitionist de facto, and retentionist.
- At the end of 2014, seven countries were abolitionist for ordinary crimes. Only 98 countries were abolitionist for all crimes, and 35 were abolitionist in practice.
- This brought the number of countries which are abolitionist in law or practice to 140.

- At the same time, 58 countries are regarded as retentionist, who still have the death penalty on their statute book and have used it in the recent past. This list includes some of the most populous nations in the world, including India, China, Indonesia and the United States.
- Neighbouring countries such as Nepal officially abolished the death penalty in 1990 and did not reintroduce it even in the aftermath of the civil war.
- Sri Lanka, despite a long civil war, has maintained a moratorium on the penalty, the commission report said.

Some offences which carry capital punishment in IPC

Sections	Description
Section 121	Treason, for waging war against the Government of India
Section 132	Abetment of mutiny actually committed
Section 302	Murder
Section 376A	Rape and injury which causes death or leaves the woman in a persistent vegetative state
Section 376E	Certain repeat offenders in the context of rape
Section 376AB	Rape on a woman under twelve years of age

SOURCE: LAW COMMISSION OF INDIA

A case for abolition:

- “The notion of “an eye for an eye, tooth for a tooth” has no place in our constitutionally mediated criminal justice system. Capital punishment fails to achieve any constitutionally valid penological goals,” the Law Commission, in its 262nd Report had said.
- It pointed out that even the Supreme Court has on numerous occasions expressed concern about arbitrary sentencing in death penalty cases.
- The commission had stated that the constitutional regulation of capital punishment attempted in the Bachan Singh case has failed to prevent death sentences from being “arbitrarily and freakishly imposed”.
- The commission had put a case for the abolition of the death penalty, except in terrorism-related offences and waging war, noting, “Retribution has an important role to play in punishment. However, it cannot be reduced to vengeance”.

30. From virtual conferencing to real leadership

Context:

- Videoconference of the heads of member countries of the **South Asian Association for Regional Cooperation (SAARC)** to discuss a **common strategy to tackle COVID-19**.

Background:

SAARC's origin:

- The idea of SAARC was initiated by General Zia Ur Rehman of Bangladesh.
- The first summit of the seven leaders of the region from Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka was held in **Dhaka in 1985**. Afghanistan joined SAARC in 2007.
- **SAARC's secretariat is based in Kathmandu, Nepal.**

SAARC's failure:

- In the nearly 35 years of its existence, SAARC has not lived up to its potential.
 - South Asia is the **world's least integrated region** with only **less than 5% of inter-regional trade between the SAARC countries**.
 - **The South Asia Free Trade Agreement (SAFTA), signed in 2006** is often highlighted as a prominent outcome of SAARC, but that too is yet to be implemented.
 - **SAARC has had no summit-level meeting since 2014**. The last SAARC summit, scheduled to be held in Islamabad in November 2016, was postponed after the terrorist attacks in Uri.

India had shifted focus to other regional groupings that do not include Pakistan and **bilateral agreements** to ensure cooperation among the neighbours, resulting in SAARC becoming marginal in India's diplomatic efforts.

Reasons for SAARC's failure:

- The India-Pakistan tensions have undermined SAARC.
 - Bilateral issues cannot be discussed in SAARC since the organization relies on the principle of unanimity for all major decisions. This has allowed **Pakistan to often undermine even the most laudable initiatives by India**. The SAARC satellite offer was rejected by Pakistan.
 - For India, **Pakistan's use of terror as an instrument of foreign policy** has made normal business impossible under SAARC and India has continuously demanded an end to Pakistan's continued support to cross-border terrorism.

The asymmetry between India and other member countries in terms of geography, economy, military strength and influence in the global arena make the smaller countries apprehensive. The smaller neighbouring countries, therefore, have been reluctant to implement various agreements under SAARC. While SAARC was intended to enhance

regional cooperation in South Asia, from its very inception, **member countries treated it with suspicion and mistrust.**

SAARC **does not have any arrangement for resolving disputes or mediating conflicts.** All contentions and bilateral issues between member states are not discussed in the SAARC owing to **Article 10 of the SAARC charter** which states that “**Bilateral and contentious issues shall be excluded from the deliberations.**” This article has rendered the SAARC insignificant. Disputes among the member countries often **hamper consensus building**, thus slowing down the decision-making process.

The infrastructure deficit in the member countries, leading to a lack of connectivity among member states is another weakness of the SAARC. This has **limited the trade possibilities between its members.** The poor trade performance of SAARC stands in marked contrast with that of the neighbouring regional alliance – the Association of Southeast Asian Nations (ASEAN).

Details:

- SAARC has acquired a new lease of life since the recent videoconference of the heads of member countries, wherein they have agreed to work together to combat the threat posed by the COVID-19 health pandemic.
- The initiative represents **India’s desire to reach out to all the countries** and also reassure the public in the SAARC region.

India’s role:

- The initial steps announced by India include the following:
 - The proposal to set up the **COVID-19 Emergency Fund for SAARC countries**, with India making an initial offering of \$10 million.
 - The formation of a **Rapid Response Team** comprising of doctors, specialists, testing equipment and attendant infrastructure would be put at the disposal of the SAARC.

The success of this SAARC initiative will largely depend on India, which is the dominant power of the region.

The recent initiative by India must become an assertive expression of its new willingness to **stabilize the region through cooperative mechanisms**, without being distracted by other differences.

India’s stakes:

- Pandemics do not recognize political borders, and in times of trouble, reaching out to neighbouring countries is the most obvious course of action.
- If India can demonstrate that it has the **capacity, the political will to institutionalize and lead a mutually beneficial cooperative regime in the region**, it could help marginalize Pakistan’s attempts to scuttle SAARC’s

initiatives. This is often referred to as hegemonic stability by international relations theorists.

- **Hegemonic stability theory** which is rooted in research from the fields of political science, economics, and history, indicates that the international system is more likely to remain stable when a single nation-state is the dominant world power or a hegemon.

This moment thus provides a **rare opportunity for India to establish its influence over the region** and help secure an **abiding partnership in the immediate neighbourhood**.

The tragedy of COVID-19 may provide an opportunity for India to demonstrate its compassionate face to secure a region at peace with itself.

COVID-19 concerns in South Asia:

- **Afghanistan and Pakistan have specific challenges as they share long borders with Iran**, which has emerged, after China and Italy, as a major hub of the virus.
- Bhutan, the Maldives, Nepal, and Sri Lanka worry about the **impact on tourism, which is a mainstay of their economies**.
- Though South Asia, with around 300 positive cases, presently accounts for a small fraction of the total number of confirmed cases of COVID-19, there are **fears of an escalation in the numbers given the density of population in the region**. While SAARC member-states occupy just 3% of the world's landmass, they account for 21% of its population.
- Other concerns are about under-reporting, as fewer people are being tested in much of South Asia, and **whether public health services can cope**.

31. A crisis-hit Iran at the crossroads

Context

The coronavirus pandemic creates fresh possibilities for cooperation between the West Asian nation and its neighbours.

Challenges faced by Iran

- **Hardest hit by COVID-19 among the West Asian countries:** Iran, the hardest-hit among the West Asian countries in the global pandemic, is on the front line of the battle against the coronavirus that causes coronavirus disease, COVID-19.
- **Healthcare reeling under combined load:** With nearly 900 deaths and over 14,000 cases of infection, its health-care system is reeling under the combined effect of the pandemic and American sanctions.

- **Possibility of Iran resurfacing:** The masses thronging the streets some weeks ago may have receded out of fear of both the coronavirus and the wrath of the regime, but there is a possibility of social unrest resurfacing if the government's response to the spread of the virus is ineffective and shortages are exacerbated.
- **Emergency funding from IMF:** Iran has already approached the International Monetary Fund for \$5-billion in emergency funding to combat the pandemic.
- **Easing of some sanctions by the US:** The U.S. Treasury had announced in end-February that it was lifting some sanctions on the Central Bank of Iran to facilitate humanitarian trade such as the import of testing kits for COVID-19. Clearly, Iran thinks this is inadequate.

Iran's nuclear policy

- **Iran to resumed nuclear activities:** Following the U.S.'s decision to jettison the deal, Iran had announced that it would resume its nuclear activities but had agreed to respect the International Atomic Energy Agency (IAEA) inspections and enhanced monitoring as part of its obligations under the additional protocol.
- **What were the conditions of JCPOA?** The JCPOA limited Iran to **enrich uranium only up to a 3.67% concentration** and its stockpile to **300 kg of UF₆** (corresponding to 202.8 kg of U-235), and further capped **its centrifuges to no more than 5,060**, besides a complete cessation of enrichment at the underground Fordow facility.
 - It also limited Iran's **heavy water stockpile to 130 tonnes**.
- **Restriction on enrichment lifted by Iran:** Since July 2019, Iran has lifted all restrictions on its stockpiles of enriched uranium and heavy water.
 - It has been enriching uranium to 4.5%, beyond the limit of 3.67%.
 - Moreover, it has removed all caps on centrifuges and recommenced enrichment at the Fordow facility.
 - **An increased stockpile of Uranium:** As of February 19, Iran's enriched uranium stockpile totalled 1,020.9 kg, compared to 372.3 kg noted in the IAEA's report of November 3.
 - **IAEA's second report:** In a second report issued on March 3, the IAEA has identified three sites in Iran where the country possibly stored undeclared nuclear material or was conducting nuclear-related activities.
 - The IAEA has sought access to the suspect sites and has also sent questionnaires to Iran but has received no response.
- **Possibility of being on the collision course with the UNSC:** The United Kingdom, France and Germany had invoked the **JCPOA Dispute Resolution Mechanism (DRM)** as early as in January this year.
- **The threat to abandon the NPT:** With the next Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) set to take place in New York from April 27 to May 22, 2020, Iran's threat to abandon the NPT if the European Union takes the matter to the UN Security Council (UNSC) may yet only be bluster, but the **failure of the DRM process would certainly put Iran on a collision course with the UNSC**.

- **Support from China at UNSC:** A sympathetic China, which holds the rotational presidency of the UNSC for March, should diminish that prospect, albeit only temporarily.
- **Possibility of reversing the sanctions:** As things stand, the terms of **UNSC Resolution 2231**, which had removed UN sanctions against Iran in the wake of the JCPOA, are reversible and the sanctions can be easily restored.
 - That eventuality would prove **disastrous, compounding Iran's current woes.**
- **Possibility of Iran continuing its nuclear program:** While recognising that cocking a snook at the NPT in the run-up to the NPT RevCon and the U.S. presidential elections will invite retribution, Iran may use the global preoccupation with the pandemic to seek a whittling down of sanctions and to continue its nuclear programme.
 - **More breathing time amid due to pandemic:** In the event that the NPT RevCon is postponed due to the prevailing uncertainty, Iran may yet secure some more breathing time.

Iran's ties with China and implications for India

- **China- only major country to defy the US sanctions:** Meanwhile, the U.S. continues to implement its "maximum pressure policy". China remains the only major country that continues to defy U.S. sanctions and buy oil from Iran, apart from a small quantum that goes to Syria.
 - The sale of oil to China, however, does little to replenish Iran's coffers. China is eschewing payments in order to avoid triggering more sanctions against Chinese entities.
- **Trilateral naval exercise:** When seen in the context of the trilateral naval exercise between China, Iran and Russia in the Strait of Hormuz in the end of December 2019 codenamed "**Marine Security Belt**", these developments suggest a further consolidation of Sino-Iran ties in a region of great importance to India.
 - **Inclusion of Pakistan in the exercise:** Over time, this could expand into a "**Quad**" involving China's "all-weather friend" Pakistan in the Indian Ocean and the northern Arabian Sea, **with broader implications for India as well as the "Free and Open" Indo-Pacific.**

Conclusion

- **Iran's foreign policy to remain unchanged:** The first round of Iran's parliamentary elections in February showed that the hardliners are firmly ensconced. The fundamental underpinnings of Iran's foreign policy are likely to remain unchanged.
- **Possibility of cooperation among neighbours:** Yet, the rapid spread of the coronavirus in the region creates fresh possibilities for cooperation between Iran and its neighbours, if regional tensions are relegated to the back-burner.

- **Laudable example by India:** Prime Minister Narendra Modi's initiative to develop a coordinated response to the pandemic in the South Asian Association for Regional Cooperation framework, indeed, sets a laudable example.
- **Much depends on Iran's willingness:** Much though will depend on Iran's willingness to rein in its regional ambitions and desist from interference in the domestic affairs of others.

32. Epidemics that have hit India since 1900

India has witnessed widespread illnesses and virus outbreaks in parts of the country, including the SARS outbreak between 2002 and 2004. However, statistics show that they were nowhere as widespread as the COVID-19 that has now reached almost every part of the country and almost every country in the world.

What is an Epidemic?

- The WHO defines epidemics as "the occurrence in a community or region of cases of an illness, specific health-related behaviour, or other health-related events clearly in excess of normal expectancy.
- The community or region and the period in which the cases occur are specified precisely.
- The number of cases indicating the presence of an epidemic varies according to the agent, size, and type of population exposed, previous experience or lack of exposure to the disease, and time and place of occurrence.
- Epidemics are characterized by the rapid spread of the specific disease across a large number of people within a short period of time.

Epidemics in India

- Many Indian citizens born at the start of the 21st century have not fully witnessed or experienced circumstances surrounding the mass outbreak of epidemics.
- This is not to say however, that as a nation, India is completely unfamiliar with dealing with epidemics and public health crises, some with exceptional success such as:

1915-1926 □– Encephalitis lethargica

- Encephalitis lethargica, also known as 'lethargic encephalitis' was a type of epidemic encephalitis that spread around the world between 1915 and 1926.
- The disease was characterized by increasing languor, apathy, drowsiness and lethargy and by 1919, had spread across Europe, the US, Canada, Central America and India.
- It was also called encephalitis A and Economo encephalitis or disease.
- Approximately 1.5 million people are believed to have died due to this disease.

1918-1920 – Spanish flu

- This epidemic was a viral infectious disease caused due to a deadly strain of avian influenza.
- The spread of this virus was largely due to World War I which caused mass mobilization of troops whose travels helped spread this infectious disease.
- In India, approximately 10-20 million people died due to the Spanish flu that was brought to the region a century ago, by Indian soldiers who were part of the war.

1961-1975 – Cholera pandemic

- *Vibrio cholerae*, one type of bacterium, has caused seven cholera pandemics since 1817.
- In 1961, the El Tor strain of the *Vibrio cholerae* bacterium caused the seventh cholera pandemic when it was identified as having emerged in Makassar, Indonesia.
- In a span of less than five years, the virus spread to other parts of Southeast Asia and South Asia, having reached Bangladesh in 1963 and India in 1964.

1974 – Smallpox epidemic

- According to WHO, smallpox was officially eradicated in 1980. The infectious disease was caused by either of the two virus variants *Variola major* and *Variola minor*.
- Although the origins of the disease are unknown, it appears to have existed in the 3rd century BCE.
- This disease has a history of occurring in outbreaks around the world and it is not clear when it was first observed in India. India was free of smallpox by March 1977.

1994 – Plague in Surat

- In September 1994, pneumonic plague hit Surat, causing people to flee the city in large numbers. Rumours and misinformation led to people hoarding essential supplies and widespread panic.
- This mass migration contributed to the spread of the disease to other parts of the country. Within weeks, reports emerged of at least 1,000 cases of patients afflicted with the disease and 50 deaths.

2002-2004 – SARS

- SARS was the first severe and readily transmissible new disease to have emerged in the 21st century.
- In April 2003, India recorded its first case of SARS, severe acute respiratory syndrome, that was traced to Foshan, China.

- Similar to COVID-19, the causative agent of SARS was a type of coronavirus, named SARS CoV that was known for its frequent mutations and spread through close person-to-person contact and through coughing and sneezing by infected people.

2014-2015 – Swine flu outbreak

- In the last few months of 2014, reports emerged of the outbreak of the H1N1 virus, one type of influenza virus, with states like Gujarat, Rajasthan, Delhi, Maharashtra and Telangana being the worst affected.
- By March 2015, according to India's Health Ministry, approximately 33,000 cases had been reported across the country and 2,000 people had died.

2018 – Nipah virus outbreak

- In May 2018, a viral infection attributed to fruit bats was traced in the state of Kerala, caused by the Nipah virus that had caused illness and deaths.
- The spread of the outbreak remained largely within the state of Kerala, due to efforts by the local government and various community leaders who worked in collaboration to prevent its spread even inside the state.
- Between May and June 2018, at least 17 people died of Nipah virus and by June, the outbreak was declared to have been completely contained.

33. Gogoi defends RS nomination

Context:

Former Chief Justice of India (CJI) Ranjan Gogoi has been nominated to Rajya Sabha, less than 6 months after retirement. The Former CJI justified his nomination to the Rajya Sabha but declined to elaborate upon the reasons that made him weigh and accept the offer.

Details:

- The President of India has nominated the former Chief Justice to the Rajya Sabha, as a member of eminence.
- Justice Gogoi will not be the first CJI to sit in the Rajya Sabha. The 21st CJI, Rangnath Mishra, served as an MP in the Upper House from 1998 to 2004. However, Justice Mishra was a Congress MP, not a member of eminence appointed by the President.
- Baharul Islam was elected to the Rajya Sabha on a Congress ticket in 1962 and 1968. However, he resigned from Parliament in 1972 to become a judge of the Gauhati High Court.

- Justice Gogoi retired in November 2019, after being part of important verdicts like the Ayodhya land dispute, the Sabarimala review and also supervised the exercise to update the National Register of Citizens in Assam.
- Gogoi was one of the four judges, along with Justices J.S. Chelameswar, Madan B. Lokur and Kurian Joseph (all retired), who held an unprecedented press conference in January, 2018, to warn the nation about the perceived encroachments by the government on the Supreme Court, the highest judicial institution.
 - The four judges had cautioned that certain sensitive and political cases were being assigned to select Benches of the Supreme Court by successive Chief Justices.
 - The press conference was held when the the case of the death of judge Loya was pending in the court.
- Justice Gogoi was the 46th CJI.
- Former Supreme Court Judge Mr. Joseph Kurian said, “The acceptance of nomination as member of the Rajya Sabha by a former Chief Justice of India has certainly shaken the confidence of the common man in the independence of the judiciary, which is part of the Basic Structure of the Constitution”.

Note:

- Under Article 80 of the Constitution, the President can appoint 12 MPs “having special knowledge or practical experience in respect of literature, science, art and social service” to the Rajya Sabha.

Way forward:

- There is nothing in the Indian Constitution that prevents the government from offering and, judges from accepting, post-retirement jobs.
 - To include such provisions, the Constitution would have to be amended to provide for a total restriction on judges of constitutional courts from accepting post-retirement government jobs.
 - Articles 148 and 319 of the Constitution already contain such restrictions for the Comptroller and Auditor General and the Chairperson of UPSC, respectively.
- There are some legal issues as well. Several legislations require that former Supreme Court judges head tribunals and commissions. The logical question to ask, therefore, is whether it is time to rework some of these legislations and explore the possibility of appointing experts from outside the judiciary.
- In May 1997, the Supreme Court of India in its Full Court adopted a 16-point charter entitled “Restatement of Values of Judicial Life”.
- The document needs to be revisited to provide for detailed principles and guidance for judges to follow, including a resolution that it would be unethical

and immoral for judges to discuss post-retirement career prospects until retirement.

Conclusion:

- The lure of post-retirement postings has plagued India's constitutional courts for many decades, irrespective of the government or party in power.
- Post-retirement lure is, perhaps, as old the Indian republic itself.
- Most judges, have accepted or discussed post-retirement jobs with successive governments.
- The question is not whether a pre-retirement ruling had led to securing a post-retirement government job, but whether a sitting judge who is exposed to the lure of potential future career prospects could be publicly perceived as acting fairly and impartially.
- Judges are but fallible human beings and personal biases can never be ruled out in decision-making.

34. A revival of multilateralism, steered by India (GS-2)

Context:

- The article argues for the need for **renewed multilateralism** in the face of the cross-national and cross-domain nature of challenges confronting the world and the need for **India to play the leadership role** in such an endeavour.

Details:

Challenges to the world:

- The current COVID-19 pandemic brings to light the **nature of challenges** that the world has been facing and is bound to face in the coming future.
 - The challenges would be **mostly cross-national in character**. They would not be bound to one region or country, **neither being limited to national boundaries nor being controllable by national solutions**. The world is increasingly becoming more **inter-connected, inter-related and also interdependent**.
 - In the case of **climate change**, though there are differences in the intensity of effect on different countries, it is a global problem. Though the major contributors of the green house gas emissions have been the developed countries, climate change would impact even the underdeveloped and developing countries.

- Similarly in the case of **poverty**, though poverty is often considered as a local or regional issue, it also manifests itself in the form of **increased migration** and in some cases **breeding ground for extremism**. Thus poverty is also cross national in character.
- The challenges would be **cross-domain in nature**, with strong feedback loops between the different domains. A disruption in one domain will result in disruptions in other related domains as well.
 - The use of **chemical fertilizers and toxic pesticides** may promote **food security** but have injurious health effects, **undermining health security**.
 - The use of **cheap coal may promote energy security** but would have a detrimental **effect on the environment and ecology**.

The COVID-19 pandemic:

- **COVID-19 is a classic cross-national and cross-domain challenge.**
 - It is a global challenge which recognises no political boundaries. Though it originated in China, recent reports point to the fact that Europe has become the new epicentre of the pandemic.
 - COVID-19 pandemic is intimately linked to the whole pattern of large-scale and high-density food production and distribution. Though it is primarily a health crisis, it is also **causing an economic crisis by disrupting global value chains** and creating a simultaneous demand shock.

Addressing the challenges:

- Given the intersection of cross-national and cross-domain challenges, tackling the challenges would **need multilateral approaches**.
- Addressing cross-national challenges requires **regional and global collaboration**. There is the need for empowered **international institutions of governance** leading the global efforts. The spirit of internationalism and solidarity between all humans would come in handy.
- The **inter-domain linkages need to be understood well and should inform policy interventions** for effective tackling of the challenges. Notably, the UN Sustainable Development Goals (SDGs) reflect this awareness.

General Concerns:

Rise of nationalism:

- In the recent past, there has been an **upsurge in narrow nationalism**, with greater emphasis on self benefit over shared interests. This has **fostered competition among states rather than encouraging collaboration**.

Lack of co-ordination among countries:

- Despite the world becoming more inter-connected, inter-related and also interdependent, the global community **has not been able to come on a single platform or frame a Global Agenda**, to overcome **global challenges like poverty, terrorism, Climate Change issues, etc.**

Concerns with respect to COVID-19 collaboration:

Lack of co-ordination:

- The interventions to deal with the COVID-19 crisis **have so far been mostly at the national level, relying on quarantine and social distancing.**
- There is virtually no coordination at the international level. In fact, the **blame game between China and the United States** over China's handling of the COVID-19 does not augur well for international cooperation and leadership.

Deepening the divide:

- One of the dreaded consequences of the current crisis may be that nationalist trends become more intense.
- Countries may begin to isolate themselves and the existing multilateralism may be further weakened. Institutions such as the **United Nations and the World Health Organization** which are already marginalized may become **increasingly irrelevant.**
- There could be a return to **closed economic and trade policies** giving rise to deeper and more pervasive **anti-globalization sentiments.**

Way forward:

Renewed multilateralism:

- There is the need to move away from nationalistic urges and embrace the logic of **international cooperation through revived and strengthened multilateral institutions** and processes.
- There is the urgent need for reaffirmation of multilateralism.

Need for leadership:

- The global financial and economic crisis of 2008 saw the birth of the G-20 summit and the U.S. led coordinated response prevented catastrophic damage to the global economy.
- However, worryingly, there is the **shortage of both leadership and statesmanship in the current times.** In such a scenario, India, with its long

tradition of international activism and promotion of rule-based multilateralism can play a pivotal role in assuming leadership of reviving multilateralism.

India's foreign policy:

- Keeping with its **traditional sense of international responsibility in foreign relations**, India has shown commendable initiative in convening leaders of the South Asian Association for Regional Cooperation nations for a regional collaborative effort on COVID-19. This should be followed by an **international initiative, either through the G-20 or through the U.N.**
- A leadership role in mobilizing global collaboration, more specifically in fighting COVID-19 would be in keeping with **India's traditional activism on the international stage.**
- The COVID-19 pandemic presents India with an opportunity to revive multilateralism, become a **strong and credible champion of internationalism and assume a leadership role in a world that is adrift.**

35. PCR Test for Diagnosis of the COVID-19

The diagnosis of COVID-19 can be done with the Polymerase Chain Reaction (PCR) Test which is explained as under:

The PCR Test

- It uses a technique that creates copies of a segment of DNA. 'Polymerase' refers to the enzymes that make the copies of DNA.
- Kary Mullis, the American biochemist who invented the PCR technique, was awarded the Nobel Prize for Chemistry in 1993.
- The 'chain reaction' is how the DNA fragments are copied, exponentially – one is copied into two, the two are copied into four, and so on.
- However, SARS-COV-2 is a virus made of RNA, which needs to be converted into DNA. For this, the technique includes a process called reverse transcription.
- A 'reverse transcriptase' enzyme converts the RNA into DNA. Copies of the DNA are then made and amplified.
- A fluorescent DNA binding dye called the "probe" shows the presence of the virus. The test also distinguishes SARS-COV-2 from other viruses.

Various Stages:

1) Collection and transport

- Testing centre takes swabs from nasal cavities and back of the throat (pharynx), and puts samples in a "virus transport medium", which contains balanced salts and albumin to prevent the virus from disintegrating.

- Sample is then transported in cold storage to the testing lab.

2) Extraction of viral RNA

- Coronaviruses have large single-stranded RNA genomes.
- Testing lab extracts the RNA from the samples, using commercially available kits.

3) Putting THE RNA in THE PCR mix

- Extracted RNA is added to a polymerase chain reaction (PCR) mix.
- This includes the 'master mix', which contains a 'reverse transcriptase' enzyme that converts the RNA into DNA.
- Master Mix contains Taq polymerase, the enzyme that creates copies of the DNA, nucleotides, as well as other elements such as magnesium – an ion of which is needed to amplify the DNA.
- The PCR mix also contains 'reagents' such as 'primers' and 'probes'.
- Primers are particular strands of DNA that are designed to bind with the DNA that is to be copied; probes are used to detect the specific sequence in the DNA sample.
- Finally, the PCR mix consists of a "housekeeping" gene – a normal human gene (RNase P) that is used to ensure that samples were properly collected, and RNA extracted.

4) Amplification of the viral DNA

- Sample, in its PCR mix, is put into tubes or plates, which are then put in a thermal cycler machine that is used to conduct the PCR process.
- First, the RNA is converted into DNA. Then the process of copying the genes starts.
- The thermal cycler heats and cools the mixture with the sample, alternating between three temperatures – for melting the DNA to separate the two strands.
- The thermal cycler runs 30-40 such cycles in order to amplify the DNA to check for the virus.

5) Testing against controls

- Amplified DNA is tested against a positive control, which usually consists of genes of the virus cloned into plasmid, and a negative control, which is a 'known' sample that has tested negative for the virus earlier.
- RNase P should show amplification, positive control should be positive, negative control should be negative, and then whatever result you get for the specimen, is the correct result.

- In order for a test to be valid before the result is released, certain 'validity criteria' have to be met.
- If the housekeeping gene (RNase P) is positive, positive control is positive, negative control is negative, and the sample does not show any PCR positive result, the sample is declared negative.
- If the PCR result is positive, the patient has COVID-19.

36. Supreme Court Invoked Special Powers to Remove a Minister

Why in News

Recently, the Supreme Court invoked its special powers under **Article 142** of the Constitution to remove a Manipur minister.

Key Points

- The Supreme Court removed Thounaojam Shyamkumar Singh, from the state cabinet and restrained him "from entering the Legislative Assembly till further orders".
- A **disqualification petition against the minister was pending before the Speaker** since 2017 but the Speaker failed to take the decision within a reasonable time period.
- The Speaker also failed to take any decision within the stipulated time period of 4 weeks as provided by **the Supreme Court in the 21st January, 2020 order**.
- **Article 212** of the Constitution **bars courts from inquiring into proceedings of the Legislature**. In this case, however, prompted by the fact that the Speaker's conduct has been called into question on several occasions, the Court said it was "constrained" to invoke the court's extraordinary powers under Article 142 of the Constitution.
- Earlier, the **Manipur High Court, in this matter, had found grounds for disqualification under the Tenth Schedule** but stopped short of issuing directions.
 - The reason being that question of whether a High Court can direct a Speaker to decide on a disqualification petition within a time frame is pending before a Supreme Court Bench.

Highlights of 21st January 2020 Order

- The court in general said that "**the Speaker, in acting as a Tribunal under the Tenth Schedule**, is bound to decide disqualification petitions within a reasonable period", which "will depend on the facts of each case."
- The Supreme Court also held that disqualification petitions under the tenth schedule should be **adjudicated by a mechanism outside Parliament or Legislative Assemblies**.
- The Court has suggested a **permanent tribunal headed by a retired Supreme Court judge or a former High Court Chief Justice** as a new mechanism. However, this

would require an amendment to the Constitution.

- Currently, disqualification of members of a House/Assembly is referred to the Speaker of the House/Assembly.
- Rationale behind Court's suggestion was to **ensure that such disputes are decided both swiftly and impartially**, thus giving real teeth to the provisions contained in the Tenth Schedule.

Disqualification under the Tenth Schedule

- The Anti-Defection Law was passed in 1985 through the **52nd amendment to the Constitution**. It added the **Tenth Schedule** to the Indian Constitution. The main intent of the law was to combat "the evil of political defections".
- According to it, **a member of a House belonging to any political party becomes disqualified for being a member of the House**, if
 - he **voluntarily gives up** his membership of such political party; or
 - he votes or abstains from voting in such House contrary to any direction issued by his political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.

Exceptions to the disqualification on the ground of defection (Two cases)

- If a member goes out of his party as a result of a merger of the party with another party. A merger takes place when two-thirds of the members of the party have agreed to such merger.
- If a member, after being elected as the presiding officer of the House, voluntarily gives up the membership of his party or rejoins it after he ceases to hold that office. This exemption has been provided in view of the dignity and impartiality of the office.

Powers of Speaker with regard to Anti-Defection Law

- Any question regarding disqualification arising out of defection is to be **decided by the presiding officer of the House**.
- After the **Kihoto Hollohan case (1993)**, the Supreme Court declared that the **decision of the presiding officer is not final** and can be questioned in any court. It is **subject to judicial review** on the grounds of malafide, perversity, etc.

Article 142

- It provides **discretionary power to the Supreme Court** as it states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for **doing complete justice** in any cause or matter pending before it.

37. Prime Minister's 15 Point Programme

Why in News

Recently, the **Union Minister of Minority Affairs** shared information about the **Prime Minister's New 15 Point Programme for the Welfare of Minorities (PM's New 15 PP)**, in the Lok Sabha.

Key Points

- PM's New 15 PP is an **overarching programme covering various schemes/initiatives** of the participating Ministries/Departments and is **implemented throughout the country**.
- **Aim:**
 - To ensure that the benefits of various government schemes for the underprivileged reach the disadvantaged sections of the minority communities.
 - It also provides that, wherever possible, **15% of targets and outlays under various schemes should be earmarked for minorities**.
- The **performance** of schemes/initiatives is **continuously evaluated** by the concerned Ministries/Departments.
- **In the context of the PM's New 15 PP, Substantial minority population**, has been used for identification of districts which are relatively backward.
 - Districts with **at least 25% of the total population belonging to minority communities** have been identified as the **Minority Concentration Districts (MCDs)**
- **The programme has four objectives** further divided into focus areas with schemes under them. These are as follows:
 - **Enhancing Opportunities for Education**
 - Equitable availability of **Integrated Child Development Services (ICDS) Services**
 - Improving access to School Education
 - **Sarva Shiksha Abhiyan.**
 - **Kasturba Gandhi Balika Vidyalaya Scheme, etc.**
 - Greater resources for teaching Urdu by Central assistance for recruitment and posting of Urdu language teachers.
 - Modernizing Madarsa Education

- Central Plan Scheme of Area Intensive and Madarsa Modernization Programme.
- Scholarships for meritorious students from minority communities.
- Improving educational infrastructure through the Maulana Azad Education Foundation.
- **Equitable Share in Economic Activities and Employment**
 - **Self-Employment** and Wage Employment for the poor
 - **Swarnjayanti Gram Swarojgar Yojana (SGSY).**
 - Swarn Jayanti Shahari Rojgar Yojana (SJSRY).
 - Sampurna Grameen Rozgar Yojana (SGRY).
 - **Upgradation of skills** through technical training
 - Locate technical institutions in areas predominantly inhabited by minority communities and upgrade them to '**Centres of Excellence**'.
 - **Enhanced credit support** for economic activities
 - **Strengthening the National Minorities Development & Finance Corporation (NMDFC).**
 - Ensuring an appropriate percentage of the priority sector lending targeted for the minority communities.
 - Recruitment to **State and Central Services**
- **Improving the Conditions of Living of Minorities**
 - Equitable share in **rural housing** scheme
 - **Indira Awaas Yojana (IAY)**
 - Improvement in **condition of slums** inhabited by minority communities
 - **Integrated Housing & Slum Development Programme (IHSDP)**
 - **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** which was earlier Jawaharlal Nehru National Urban Renewal Mission (JNNURM).
- **Prevention and Control of Communal Riots**
 - Prevention of communal incidents

- Posting of efficient, impartial and secular record in communally sensitive and riot prone areas.
- Prosecution for communal offences
- Rehabilitation of victims of communal riots

Minorities

- **Muslims, Sikhs, Christians, Buddhists, Jains and Zoroastrians (Parsis)** have been notified as minority communities under **Section 2 (c) of the National Commission for Minorities Act, 1992.**
- **Constitutional Provisions:**
 - The term "**minority**" is not defined in the **Indian Constitution**. However, the Constitution recognises only **religious and linguistic** minorities.
 - **Article 29:** It provides that any section of the citizens residing in any part of India having a **distinct language, script or culture** of its own, shall have the **right to conserve the same.**
 - **Article 30:** Under the article, all minorities shall have the **right to establish and administer educational institutions** of their choice.
 - **Article 350-B:** Originally, the Constitution of India did not make any provision with respect to the **Special Officer for Linguistic Minorities**. But, the **Seventh Constitutional Amendment Act of 1956** inserted Article 350-B in the Constitution.
- **Parliamentary Provisions:**
 - **National Commission for Minorities Act, 1992**
 - It defines a minority as "a community notified as such by the Central government."

38. Crime and punishment

Context

- Four Nirbhaya case convicts hanged to death in Tihar jail.
- On December 16, 2012, the woman was brutally raped in an empty moving bus in Delhi and she died after battling for her life

What the law says on a rape victim's identity?

- Section 228 A of the Indian Penal Code lays down the provisions barring the disclosure of identity of the victim of certain offences.

- According to the law anyone publishing the name of a rape victim is liable to be punished with imprisonment for a term which may extend to two years and shall also be liable to fine.

The only circumstances under which the identity can be revealed is either

- by or under the order in writing of the officer-in-charge of the police station or the police officer making the investigation into such offence acting in good faith for the purposes of such investigation; or
- by, or with the authorisation in writing of, the victim; or
- where the victim is dead or minor or of unsound mind, by, or with the authorisation in writing of, the next of kin of the victim

Since Indian law does not allow the press to publish a rape victim's name, the victim was widely known as Nirbhaya, meaning "fearless", and her struggle and death became a symbol of women's resistance to rape around the world.

Justice Verma Committee

- In 2012, the government of the day, set up the Justice J.S. Verma Committee to look into rape laws.
- The report, led to stringent changes through **the Criminal Law (Amendment) Act, 2013**
 - The 2013 Act expanded the definition of rape
 - The courts' discretion to give rapists a sentence lesser than the minimum of seven years was abolished.
 - Separate punishments for repeat offenders were also introduced, including the possibility of the death sentence.
 - The amendments also included an improved standard of consent – consent now needs to be unequivocal and clearly communicated, and lack of physical resistance isn't assumed as consent.
 - Several rules of evidence that were regressive, that encouraged victim-shaming, and actually had nothing to do with the crime, like the two-finger test, or questioning the victim's previous sexual history were repealed.

But several key recommendations of the Verma Committee on criminalisation of marital rape, monitoring of illegal patriarchal village councils like khap panchayats, police reform and review of security laws in conflict zones have been ignored.

- Mandatory sex education including gender sensitisation in schools was one of the key recommendations by the Verma Committee that is yet to see light of the day.

Concerns

- Nirbhaya's family – particularly her parents may be said to have got justice for their daughter, but countless other victims of rape and sexual violence await judicial redress and rehabilitation.
- An insensitive police force and a tardy justice system have failed to deter the crime of rape.
- We also need to look at the rehabilitation of rape victims and preventive aspects such as the changing social attitudes towards women.
- The changes made to criminal law after the 2012 Nirbhaya case have not yielded the desired results as the problem lies with implementation to make the law a deterrent. Unless laws are implemented effectively, no progress can be made on the ground.

What is the way forward?

- Rape accused should be **prosecuted within a time frame** and the application of laws must be equal for all. Each case has to be treated with the same pace and sensitivity.
- We need to **sensitise police and other probe agencies**.
 - It is necessary to lay down the time frame within which the investigation should be concluded and trial be conducted and authorities should meet the timeline.
 - There is a need to take adequate steps to expeditiously conduct trial in a time-bound manner. Digitalization of the process is required for early disposal

Focus on women's safety and improving the conviction rate in genuine rape cases by significantly upping the level of investigation and evidence gathering is the need of the hour.

39. Going regional

Context

Prime Minister Narendra Modi signalled a change in India's rejection of SAARC as a platform for regional cooperation by inviting all heads of state and government of SAARC countries to a video summit to promote a region-wide response to the Covid-19 pandemic.

SAARC in virtual deep freeze

- Who attended the video conference? The video summit was attended by all SAARC leaders, except for Prime Minister Imran Khan of Pakistan, who deputed his special assistant for health to represent him.
- **Status of SAARC:** SAARC has been in a virtual deep freeze since India conveyed it would not attend the 19th SAARC summit, to be hosted by Pakistan in 2017, in the wake of the cross-border terrorist incidents at Pathankot and Uri.
 - Other SAARC leaders also declined to attend.
 - The summit was indefinitely postponed.
- **Focus on BIMSTEC:** Since then India has downgraded SAARC as an instrument of its “Neighbourhood First” policy and shifted the focus to the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) instead.

Backdrop of SAARC revival

- For his swearing-in ceremony in 2014, PM Modi had invited leaders of all SAARC countries including Pakistan.
- For the swearing-in ceremony in 2019, it is BIMSTEC leaders who were the invited guests.
- Soon after taking over as external affairs minister, S Jaishankar referred to SAARC having “certain problems” while BIMSTEC was described as having both energy and possibility and “a mindset which fits in with that very optimistic vision of economic cooperation that we want.”
- **Deliberate political message:** Against this backdrop, Modi’s initiative in convening a SAARC video summit, instead of a BIMSTEC video summit, conveys a deliberate political message.

Proposal of SAARC Covid-19 Fund and Health Ministers’ Conference

- At the conference, Modi gave a call for the countries of SAARC “coming together and not going apart.”
- A **SAARC Covid-19 Fund** has been proposed with India committing US\$10 million.
- Modi referred to the role which could be played by an existing SAARC institution, **the Disaster Management Centre**, in enabling a coordinated response to Covid-19.
- Suggestions were made by several leaders, including the Pakistani representative, for a SAARC Health Ministers’ Conference to follow up on the summit. This is likely to be convened soon.

Pakistan on defensive

- **India seen as undermining SAARC:** Modi’s initiative has put Pakistan on the defensive. So far, it was India which was seen as undermining SAARC in which other South Asian countries have a keen interest.

- **BIMSTEC no alternative to SAARC:** While there has been readiness on their part to participate in BIMSTEC, they do not consider the latter as an alternative to SAARC. In taking this initiative, Modi may be responding to these sentiments.
- **Onus on Pakistan:** If Pakistan now drags its feet, then the onus will be on her for weakening the Association.
 - There is a new situation as a result of the abrogation of Article 370 relating to Kashmir, which has been denounced by Pakistan.
- **Difficulty for Pakistan:** It would be difficult for Pakistan to accept cooperation with India under SAARC because this would compromise its stand on Kashmir.

BIMSTEC not delivered expected results

- **Not yielded the expected result:** It is also a fact that the focus on BIMSTEC has not yielded the results India may have expected.
- **Trade below the set target:** Current trade among its members is US\$40 billion, though the potential was set at \$250 billion.
- **Act East policy stalled:** India's Act East policy, which involved a key role for India's Northeast, has stalled.
- **RCEP factor:** The Northeast is in political turmoil while India has opted out of the Regional Comprehensive Economic Partnership (RCEP), which would have added substance to BIMSTEC.

Why India should revive SAARC

1. BIMSTEC not a credible option to SAARC

- Today it is difficult to see BIMSTEC as a credible and preferred alternative to SAARC.
- **Cooperation both through SAARC and BIMSTEC:** In any case, it makes better sense for India to pursue regional economic cooperation both through SAARC as well as BIMSTEC rather than project them as competing entities.
- **SCO membership a contradictory position:** If the argument is that regional cooperation involving Pakistan is a non-starter due to its ingrained hostility towards India, then being part of Shanghai Cooperation Organisation (SCO), where both are members, becomes a somewhat contradictory position.

2. The China factor

- **China making inroad into the neighbourhood:** In determining its position towards SAARC, India must also take into account the significant inroads that China has been making in its sub-continental neighbourhood.
- **BRI initiative:** With the exception of Bhutan, every South Asian country has signed on to China's ambitious Belt and Road Initiative (BRI).

- A number of Chinese infrastructure projects are already in place or are being planned in each of our neighbours.
- **China likely to become a key player:** With SAARC becoming inoperative and BIMSTEC not living up to its promise, China is likely to become a key economic partner for South Asia and India's hitherto pre-eminent role will be further eroded.
 - On this count, too, it is advisable for India to advance regional cooperation both under SAARC as well as BIMSTEC. Both are necessary.

3. Pakistan factor

- **Should not give up on Pakistan:** Despite the frustration in dealing with Pakistan, India should not give up on its western neighbour.
- **Relation needs to be managed:** Relations with Islamabad will remain adversarial for the foreseeable future but still need to be managed with two ends in mind.
 - One, to ensure that tensions do not escalate into open hostilities and,
 - two, to reduce leverage which third countries may exercise over both countries on the pretext of reducing tensions between them.
- **No compromise in position on terrorism:** This does not in any way compromise our firm stand against cross-border terrorism emanating from Pakistan. The revival of SAARC could be an added constraint on Pakistan's recourse to terrorism as an instrument of state policy.

4. Afghanistan factor

- Finally, the revival of SAARC would also support the Ashraf Ghani government in Kabul in navigating through a difficult and complex peace process involving a Pakistan-sponsored Taliban.

Conclusion

While these are essentially tactical considerations, there is a compelling reality which we ignore at our peril. Whether it is a health crisis like **the Covid-19 or climate change, the melting of Himalayan glaciers or rising sea levels, all such challenges are better and more efficiently dealt with through regional cooperation.** The Indian Subcontinent is an ecologically integrated entity and only regionally structured and collaborative responses can work.

40. The perils of an all-out lockdown (GS-2)

Introduction

- A virus is a microorganism which is different from bacteria, in that they need a living host in order to reproduce.

- Viruses can survive outside their hosts, on surfaces such as bench tops, door knobs and bathroom taps, for hours or sometimes days (depending on the type of virus, and the type of surface). But they can't reproduce outside the host.

What sort of virus is SARS-CoV-2?

- The virus is surrounded by a capsule that is covered in spikes, which bind to receptors.
- The capsule is made up of proteins and lipids, which is why frequently washing your hands with soap and water is so important as the soap can break the capsule and kill the virus.

As the novel coronavirus spreads, a double crisis looms over India: a health crisis and an economic crisis. The health crisis is class-neutral impacting both the rich and the poor, but the economic crisis hurts poor people the most. The economic crisis is throwing millions out of work by the day.

This economic crisis calls for urgent, massive relief measures

- Initial measures could include advance payment of pensions, enhanced PDS rations, immediate payment of MGNREGA wage arrears, and expanded distribution of take-home rations at schools and anganwadis.
- Public transport, administrative offices, court hearings, MGNREGA projects and even immunisation drives have already been suspended to varying degrees in many States. This may **aggravate people's hardships**.
 - If a service creates a major health hazard, public purpose may certainly call for it to be **discontinued** (this is the reason for closing schools and colleges).
 - On the other hand, **services that help poor people in their hour of need** without creating a major health hazard should continue to function as far as possible.
 - That would apply not only to health services or the Public Distribution System, but also to many other public services including administrative offices at the district and local levels.
 - Poor people depend on these services in multiple ways, closing them across the board at this time would worsen the economic crisis without doing much to stem the health crisis.

Coordination the key

- Given India's high population density and already stressed and under-resourced public health infrastructure, much more synchronisation will be required between healthcare institutions, research bodies and government agencies to prevent community transmission of the infection.

- This requires public health bodies and research outfits to be attentive to all signs on the ground, frame their responses accordingly and communicate the challenges posed by the virus to the people in a language they understand.

Conclusion

- Therefore, in the coming days and weeks, the Centre and state governments will have to find ways to mitigate people's economic hardship while addressing public health imperatives.

Additional Information:



41. Test of regional solidarity lies ahead

Context

If PM Modi's gesture to SAARC is to go some way towards a solution for the region, India, which will be picking up the pieces itself, must have something to offer to its neighbours.

Background

- **Not a viable option:** Since 2014, when the last SAARC summit was held in Kathmandu, India had made it more than clear that it no longer considers the South Asia grouping viable.

- It was Islamabad's turn to host the next summit in 2016, but the Uri attack intervened, and India refused to attend.
- **SAARC in limbo:** Under the SAARC charter, the summit cannot be held even if a single nation stays away, and the grouping has remained in limbo since.
- **India's increased engagement with other groups:** In the last five years, India has actively sought to isolate Pakistan in the region.
 - India hyped up its engagement with other regional groupings such as-
 - BBIN (Bangladesh-Bhutan-India-Nepal), and
 - BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation), which includes Bangladesh, India, Myanmar, Sri Lanka, Thailand, Nepal and Bhutan.

How to read the sudden resurrection of SAARC?

- **Officials denied revival speculation:** Despite hopes that this might be a SAARC revival, officials have discounted such speculation. That would require India to climb down from its position that Pakistan has taken verifiable steps to address India's concerns on terrorism. There is no evidence at all that Delhi is about to do that.
- **No hope of move from Pakistan:** It would need Pakistan to turn over a new leaf, stop playing with free radicals to use against India, in Kashmir or elsewhere when the time is ripe. Neither is about to happen.

No cooperative response in the works

- **First to call the neighbours:** At a time when leaders across the globe appeared to be engrossed in the COVID-19 calamity of their own nations, Modi was the first to think of calling the neighbours.
- **Why cooperation among neighbours matter?** Almost all South Asian countries are bound to each other by land borders and **frequent inter-travel**, and it is important that **the region liaises to stop the disease from spreading across the Subcontinent.**
- **Countries not willing to learn from each other:** It was a trifle disappointing, therefore, that beyond the experience of witnessing a unique video summit, there is not much to suggest that a cooperative response is in the works.
 - There is no evidence that each country is willing to learn from the other's experiences, or public health systems, or that we are tracking each other's data and responses.
- **What were the proposals made in the summit?** Two proposals were made:
 - One by India for a regional fund that Modi has generously offered to put aside \$10 million for.

- Pakistan proposed the setting up of a diseases surveillance centre for sharing real-time data. India has said it would prepare emergency response task forces to help out the member countries in need.
- Delhi is said to be in the process of **sending medical supplies worth \$1 million to Nepal, Afghanistan, Sri Lanka, Bhutan and Maldives**, which sounds like a fraction of what they may eventually require.
- Pakistan has said China will give it testing kits, protective gear and portable ventilators, as well as a cash grant for a state-of-the-art isolation centre.
- Beijing, eager to live down its image as the point of origin for this global mayhem, will make the same offer to other South Asian countries soon.

What were the lessons India need to learn from video-summit?

- **Indian need to go beyond Big Brother events:** If the intention was to try and restore the aura Prime Minister Modi enjoyed in the region at the beginning of NDA-1, as some have not improbably suggested, it has to go beyond this Big Boss event.
 - The video summit saw polite attendance by all SAARC leaders, with the exception of Pakistan which sent its health minister.
 - But going by the scant media coverage that the summit, the first after six years, received in the neighbourhood, no one is holding their breath.
- **India has lost heft it once held:** For many countries in the region now, India has lost the heft it used to have in the last century.
 - A proximate reason is that it is no longer an economic powerhouse nor holds the promise of being one in the near future.
 - The other reason is that it no longer offers itself as a model nation, pulling together its complex diversities, pluralism and political ideologies in a broad-minded vision.
- **CAA factor and changing the perception of India:** The real damage to India's standing was, of course, done by the badmouthing of the Muslim countries in the neighbourhood to justify the Citizenship (Amendment) Act 2019.
 - **Larger image of themselves:** Seen from the eyes of other countries in South Asia today, India is now just a larger version of themselves and their political and economic dysfunctions.
 - While additionally possessing and wielding the instruments to be vengeful and punitive in its foreign policy – including arm-twisting them now and then in its constant quest to isolate Pakistan.

Conclusion

- **The real test for India lies ahead:** The real test of Modi's leadership of South Asia, and by extension of India's, will come after the pandemic subsides, when each country has to deal with what remains of its economy.
 - The tourism economy of Bhutan, Maldives, Nepal and Sri Lanka would have been crushed by then. Pakistan will be worse off than it is now.

- There will be more unemployment and hardship everywhere in the region.
- Some of these countries will inevitably turn to China.
- **India must have something to offer as a solution:** If Modi's gesture is to go some way as part of the solution for the region, India, which will be picking up the pieces itself, must have something to offer to its South Asian neighbours six months to a year down the line.
 - Is there such a plan? Can India put aside the prejudices of its domestic communalism, and its own economic woes, demonstrate large-heartedness to all the countries of the region, irrespective of what religion its people follow, irrespective of its historical hostilities with at least one?
 - There may be more economic refugees knocking on India's doors, apart from a host of other inter-regional problems.

42. A pandemic, an economic blow and the big fix (GS-2)

Context:

- The economic impact of the COVID-19 pandemic.

Background:

Global economic impact of the pandemic:

- Pandemics, apart from posing major health risks, also **pose economic and social risks**. Pandemics have the potential to **disrupt economies, and destabilize national security**.
- The effect of the **strong clampdown measures** taken by the various governments to arrest the spread of the coronavirus is being felt across the global economy.
- The shutting down of industries may lead to loss of jobs and subsequently demand in the economy.
 - The number of people who lost their jobs, in just the last two weeks in America is the highest ever weekly job losses recorded in its history.

There are **fears of a global recession** given that the **two largest economies of the world, China and the U.S. have been affected by the pandemic**. The large and developed economies are expected to not merely slow down, but to contract and experience negative growth.

The **economic devastation will be much more painful and longer than the health impact of the pandemic**.

The **melt down of the major stock exchange indices** is an indication of the uncertainty and fear in the global economy.

Measures being taken by countries:

- The United Kingdom has unveiled the biggest **economic recovery package** in its history, as an antidote to the imminent economic crisis.

- The **United States is finalizing a trillion-dollar economic recovery package.**
- Germany has announced unlimited government financing for the disruptions due to the outbreak.
- France, Spain, Italy and the Netherlands have all launched half-a-trillion dollars combined in recovery measures.

Details:

Economic Impact in India:

Job losses:

- There are reports that a third of all restaurants could shut down in the formal sector alone and shed more than 20 lakh jobs, in the coming months.
- **The automotive sector** which was already hit by slowing demand is shutting down its factories due to the pandemic. This puts at risk the incomes of around a million people employed in the automotive sector.
- The **unorganized sector**, which constitutes a large proportion of the working population in India, would be the most affected, given the **loss of livelihood opportunities and lack of social security measures.**

Drop in demand:

- **Job losses lead to lesser disposable income in the hands of the people** and subsequently, consumption drops and **overall demand collapses.**

Financial sector crisis:

- When businesses close down, they default on their commercial obligations to their financiers and suppliers. This **freezes up credit flow in the economy** and also affects related sectors.

Effect on trade:

- Trade constitutes a considerable proportion of the Indian economy. The **reduced trade** due to stringent clampdown measures would affect the growth in the Indian economy.
- Given the **global nature of the crisis, it is not even possible for India to import and export its way to recovery.**

Measures taken in India:

- India has set up a **task force under the Finance Minister** to assess the economic impact of the pandemic and suggest economic recovery measures.

Recovery package for India:

- Given the inevitable economic crisis, it is prudent to take necessary actions immediately. India needs a **comprehensive recovery package** that will first **cushion the economic shock and then help the economy recover.**
- The recovery package should focus on the following aspects:
 - Providing a safety net for the most affected sections.
 - Addressing the impending liquidity squeeze in the financial system.
 - Addressing disruptions in the economy and incentivizing the external sector of trade and commerce.

Way forward:

Safety net for the most affected sections:

- About 37% of households depend on casual labour as their major source of income for rural and urban India, and nearly 55% have tenuous regular employment, as per the Periodic Labour Force Survey data for 2017-18.
- The poor will be the worst affected, including informal workers, workers in the gig economy, or those running small businesses for whom social safety nets are not adequately in place.

Direct cash transfer:

- As part of the efforts to provide a **safety net for the most affected sections**, direct cash transfer option should be considered.
- **The destruction of jobs, incomes and consumption can be addressed through a direct cash transfer** of 3,000 a month, for six months. This should be provided **exclusively to the most vulnerable section of the society.**
- Considering only the bottom half of all Indian households, the direct cash transfer would cost nearly 2.2-lakh crore and reach 60 crore beneficiaries, **covering agricultural labourers, farmers, daily wage earners, informal sector workers and others.**
- This would ensure a sustained income stream for the millions who have lost their incomes and provide them a safety net and a sense of confidence.
- Various **existing schemes of the government can be subsumed under the direct cash transfer scheme**, to ensure sufficient financial resources to execute the direct cash transfers.
 - The **Pradhan Mantri Kisan Samman Nidhi (PM KISAN) programme** with a budget of ₹75,000 crore can be subsumed into the direct cash transfer scheme.

Right to work:

- The **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) must be expanded and restructured into a public works programme**, to build much-needed hospitals, clinics, rural roads and other

infrastructure. This can be achieved by integrating MGNREGA with the Pradhan Mantri Gram Sadak Yojana and the roads and bridges programme.

- The above three programmes together have a budget of nearly ₹1.5 lakh crore. This must be doubled to ₹3 lakh crore and serve as a **true 'Right to Work' scheme for every Indian who needs it.**

Access to food:

- The Food Corporation of India has sufficient buffers of rice, wheat and unmilled paddy stocks.
- The buffer stocks should be used to **provide 10kg rice and wheat to every Indian family, free of cost, through the Public Distribution System.**
- The **combination, of a basic income of 3,000 rupees a month, a right to work and food grains, will provide a secure safety net for the most vulnerable section of the population.**

Addressing the liquidity squeeze in the financial system:

RBI's role:

- **The Reserve Bank of India's (RBI) announcement of a 1.5-lakh crores liquidity and credit backstop facility** is a welcome move and acknowledgment of an imminent liquidity squeeze in the economy.
- The RBI should set up a **credit guarantee fund** for distressed borrowers for credit rollover and deferred loan obligation.
- RBI must also consider immediately **reducing interest rates to spur business activity.**

Addressing disruptions in the economy:

- **Service sectors** like airlines, tourism, hospitality, entertainment and logistics have been disrupted due to the clampdown in place.
 - The government must **consider a two-year tax holiday and an appropriate incentive scheme** for these sectors that have been devastated.

Similarly, **India's exports predominantly in textiles and leather which are labour intensive sectors have been disrupted** due to the sudden drop in global demand and the restrictions on trade.

- **Sector specific incentive schemes and government support** for such critical sectors should be considered.

COVID-19 testing, treatment, medical equipment and supplies capacity can be expanded through the private sector and can be reimbursed directly for patient care. The testing and treating of at least 20 crore Indians through the private sector will need a 1.5- lakh crore budget. This will also help **create a large number of jobs in the private health-care sector, with trickle-down benefits.**

Financing the recovery package:

- The total incremental expenditure for the recovery package as discussed, **would be between 5-lakh crore to 6-lakh crore for FY2021.**
- The States combined incur an expenditure of 40 lakh crore rupees and can share some of the expenditure of the recovery package. Given that post the introduction of Goods and Services Tax (GST), States do not have the fiscal freedom to raise tax revenues on their own, the **major responsibility of financing such a recovery package would be on the central government.**
- This amount can be funded mainly thorough the reallocation of some of the budgeted capital expenditure, expenditure rationalization, and the savings due to the drop in oil prices.

Reprioritizing expenditure plans:

- The **government had budgeted more than 4-lakh crore rupees in capital expenditure for FY2021.** Given the extraordinary situation, it is important to **reprioritize the expenditure plan in the near term.**
- Some part of this budget will have to be allocated to the COVID-19 recovery package.
- Under the given circumstances, some **low priority expenditures** like the package for the revival of the telecom public sector units can **be delayed** and the budget for national highways, roads and bridges can be rationalized to reallocate some portion of the planned expenditure to the recovery package.

Expenditure rationalization:

- The 49 ministries in the Union government of India made a demand for grants totalling 30-lakh crore rupees as total expenditure for FY2021.
- The 13 large and important ministries account for as much of the Budget expenditure as the remaining 41 ministries combined. There is ample **scope to rationalize expenditure** in the less critical 41 ministries to extract some funding for the recovery package.

Savings due to the drop in oil prices:

- Fortunately for India, there has been a **dramatic fall in global crude oil prices**, from \$40 a barrel to an estimated \$20 a barrel. This will help India save nearly 2-lakh crore.
- This amount can be **used to fund the recovery package** or make up for shortfall of tax revenues.

Conclusion:

- India needs an **immediate relief package** of 5-lakh crore to 6-lakh crore rupees, **targeted across all sections of society and sectors of the economy.**
- The fiscal deficit of India will rise driven both by increased expenditure by the government and shortfall of revenues from the slowing economy. Hence there

are **concerns on the possible fiscal implications of a stimulus package of this scale**. However, given the impending crisis, this is **not the time for fiscal conservatism**.

- There is a need to think big, bold and radical to pull the Indian economy out of the inevitable crisis. This is India's moment for the equivalent of **the "New Deal" that U.S. President Franklin Roosevelt launched in America after the Great Depression of 1929**.

43. Lockdown and beyond (GS-2)

Context:

- The **lockdown in India** to counter the possibility of large-scale transmission of the novel coronavirus.

Details:

Lockdown in India:

- Given the possibility of a **public health catastrophe due to large-scale transmission of the novel coronavirus**, a national lockdown is in place.
- The goal of the lockdown is to flatten **the transmission curve and help a fragile public health system** cope with a large number of cases.
- Physical distancing of people has been ensured through a suspension of rail and inter-State bus services, closure of public places, cessation of all non-essential activity and street-level monitoring.
- States are enforcing social distancing through **Section 144 of the Criminal Procedure Code, the Epidemic Diseases Act, 1897 and the Indian Penal Code**.

Way forward:

- The lockdown is just the first step against the pandemic and there is a need for further steps in the fight against the pandemic.

Addressing essential requirements:

- Given the restrictions in place, the government machinery must now focus on addressing the **essential requirements of food, medicines, etc**. It must ensure all steps are taken to **mitigate the impact on people**.
 - Governments must ensure that the **most vulnerable classes, economically and socially**, including the elderly, have access to essential articles including medicines, close to where they live.

- Governments must consider **providing essential food items to the most affected section of people**. This can be done through civil supplies departments, civic workers, and non-governmental organisations.
- Given the large number of people dependant on casual labour as their major source of income, it is essential for governments to ensure that they **get subsistence wages for as long as restrictions last**.

Access to healthcare:

- The first and most effective step against the pandemic must be to **shore up the healthcare system** and, as the World Health Organization has recommended, **create capacity in hospitals for everyone who shows symptoms to access testing facilities**.
- Providing full and free testing to all those who need it is critical for effectively controlling the spread.

Public health response:

- There is a need to **formulate a public health response for the period beyond the shutdown**.
- China, South Korea and Singapore, as WHO points out, adopted a strict shutdown and followed it with testing at the population level to get a grip on infections.
- India needs to **get a universally accessible testing system in place to prevent transmission when the lockdown is lifted**.

Addressing the weak links:

- In India, a **vast number of poor people depend on public healthcare**. The **polarization of healthcare facilities between the private and public sector** does not provide the right framework to channel timely medical services during a pandemic.
- Given the **limited capacity of public healthcare services**, they will be hard-pressed to provide the requisite support to low-income groups. In the absence of actions to replenish their capacity, they will not be able to cope with the pressures in the longer run.
- This needs to be urgently addressed, in the absence of which **the poor will become the weakest link in any effort to contain the virus**.
- The experiences of Italy, France, Switzerland and the U.S. highlight that **COVID-19 tests and treatment should particularly be available and accessible to people in high-risk groups and from low-income backgrounds**.

Involving private sector participation in healthcare:

- Given the limited opportunities to rapidly expand the public health systems in a short frame of time, there is the need to consider **involving private sector in the health systems**.
- **COVID-19 testing, treatment, medical equipment and supplies capacity can be expanded through the private sector.**

Combating Misinformation:

- The rise of fake news during the crisis period is a **big threat**.
 - COVID-19 is already deeply **affecting economic activity**, and fake videos linking its spread to the **meat and poultry sector** have led to a low demand for these products and, consequently, large-scale losses.
 - Advocating particular cures or linking the virus to various factors without underlying scientific evidence can cause a lot of damage as such **misinformation creates confusion** and prevents communities from following instructions from authorities and being united against the threat.
 - Fake news also leads to **lowered public morale**.

The government can consider taking **action against the circulation of fake news and rumours**.

The **public should be more vigilant** and must try to make a distinction between scientific information that can support a balanced epidemiological response and misinformation that will adversely affect our efforts.

Economic recovery package:

- Given the economic consequences of the pandemic, there is the urgent need to come out with a **suitable economic stimulus package** as is being done in other economies.
- This should help address **the major disruptions in the economy**. A recovery package should ideally include funds transfers during the containment phase of the pandemic, followed by a stimulus to sustain employment.

44.China and WHO a new story

Context

The WHO leadership, especially its Director-General, has been accused of serving China's interests rather than preparing the world against the spread of the virus.

What is the basis of accusations?

- **The first basis** for these charges is the WHO's endorsement of the Chinese **claim in mid-January that there was no evidence of human-to-human transmission** of the virus.
- **Second**, consistent support for Beijing's handling of the crisis.
- Third, WHO's criticism of other nations for imposing travel restrictions to and from China.
- Critics also believe the **WHO lulled the world into complacency** by delaying the decision on calling it a global emergency.

The new geopolitics of multilateralism

- Whatever the merits of the above arguments, they point to the **new geopolitics of multilateralism**,
- It also disproves the assumptions in both the West and India on China's role in the UN.
- It also **underlines Beijing's success in the leveraging of international organisations** for its national advantage.
- **Nations working together against the trans-national threat:** On the face of it, the sentiment that nations must work together against common trans-national threats is an eminently sensible one. **But it does not easily translate into concrete actions.**
- **Example of failure to act against a common threat:** Take climate change. Attempts at developing collective solutions to the problem over the last three decades have foundered.
- Most leaders agree on the problem and the solutions **but are not willing to accept the framework** – either the domestic or international – for distributing the costs associated with the solutions.
- **The US-China rivalry angle to the coronavirus outbreak:** The problem of the cost-benefit distribution is compounded by great power rivalries. The coronavirus has shown up at a moment of deepening tensions between the US and China.
- The grave collective challenge that the virus constitutes has only sharpened the conflict.
- **The blame game between the two:** The US blames Beijing for letting this virus become a global monster and Beijing is doing all it can to deny that the virus came out of China.

How the relationship between China and WHO has transformed over the years?

- **WHO's actions in the past:** Nearly two decades ago, during the SARS crisis, WHO was at the front and centre of pressing China to come clean on the unfolding pandemic.
- In 2003, it had issued the organisation's **first travel advisory ever on travel** to and from the epicentre of the pandemic in southern China.
- As the **SARS crisis** escalated, Beijing's traditional arguments about the centrality of state sovereignty yielded place to a new **policy of working with the WHO and taking proactive steps to reassure neighbours in South East Asia.**
- **Reasons for change in WHO's stance:** Some attribute the turnaround in the relationship between Beijing and WHO to **China's growing financial contributions.**

- **China's efforts to expand clout:** Observers of the UN point to something more fundamental – a conscious and consequential Chinese effort to expand its clout in the multilateral system.
- China, which was admitted to the UN system in the 1970s, was focused on finding its way in the 1980s, cautiously raised its profile in the 1990s, took on some political initiatives at the turn of the millennium and **seized the leadership in the last few years.**

How India and the West are reacting to China's rise?

- **Unprepared to deal with China's rise at UN:** Neither the West nor India have been prepared to deal with the impact of China's rise on the UN system.
- The US and its allies bet that China will be a "responsible stakeholder". Put another way, they hoped that China will play by the rules set by the West.
- **China's ambitions:** China, of course, wants to set its own rules. Only the political innocents will be shocked by China's natural ambition.
- **India's past alignment with China:** India, which considered US dominance over the international institutions in the 1990s as a major threat, chose to align with China in promoting a "multipolar world".
- Delhi convinced itself that despite differences over the boundary, Pakistan and other issues, there is huge room for cooperation with China.
- **Replacing the US as the dominant force:** To their chagrin, the West and India are being compelled to respond to a very different environment at the UN. China wants to replace America as the dominant force in the UN.
- **The US is now fighting back.** Last month, Washington went all out to defeat the Chinese candidate for the leadership of an obscure UN agency called the World Intellectual Property Organisation.

Implications of China's rise for India

- **Chinese hegemony vs. American primacy:** Delhi discovered that Chinese global hegemony could be a lot more problematic than American primacy.
- After all, it is China that complicates India's plans for membership of the Nuclear Suppliers Group, protects Pakistan against international pressures on cross-border terrorism, and relentlessly pushes the UN Security Council to take up the Kashmir question.
- **India now turns to the US and its allies** to pursue some of its interests in the UN.
- **Multilateralism not an end in itself:** Political ironies apart, if there is one lesson that India could learn from China's experience with WHO and the UN, it is that multilateralism is not an end in itself for major powers.
- It is an important means to secure one's national interest and shape the international environment.
- As a nation battered by the Cultural Revolution, China used international cooperation and global institutions to rebuild itself in the last decades of the 20th century.

- **Ready to reorder global governance:** Having developed its economy and advanced its scientific and technological base, China is now ready to reorder global governance and become a rule-maker.
- The effects are visible in the arena of global health.
- China's expanding global engagement with the WHO, its substantive international health assistance programmes, and an impressive domestic health technology sector are poised to boost China's ambition to build a **"Global Silk Road for Health"**.

Conclusion

On its part, Delhi needs to intensify the recalibration of India's multilateralism, rewrite its diplomatic lexicon at the UN, and build new political coalitions that will simultaneously contribute to India's **internal modernisation and enhance its international influence**. The corona crisis is a good moment to start writing a new script for India's own health diplomacy.

45. Kuril Islands

Why in News

Recently, a 7.5 magnitude **earthquake** struck in the northern Pacific and a **tsunami warning** was issued for the **closest shores on Russia's far eastern Kuril Islands**.

- The earthquakes of this strength in the region have caused tsunamis in the past far from the epicenter of the earthquake.
- The **epicenter is the point on the Earth's surface directly above a hypocenter or focus**.(The hypocenter is where an earthquake or an underground explosion originates.)

Geographic Location of Kuril Islands



- Kuril Islands are stretched from the **Japanese island of Hokkaido to the southern tip of Russia's Kamchatka Peninsula** separating Okhotsk Sea from the North Pacific ocean.
- It consists of **56 islands and minor rocks**.
- The chain is part of the belt of geologic instability circling the Pacific and contains at least 100 volcanoes, of which 35 are still active, and many hot springs.
- Earthquakes and tidal waves are common phenomena over these islands.

Importance of South Kuril Islands

- **Natural resources:**
 - The islands are surrounded by **rich fishing grounds** and are thought to have **offshore reserves of oil and gas**.
 - Rare **rhenium deposits** have been found on the Kudriavy volcano on Iturup.
 - **Nickel-based superalloys of rhenium** are used in the combustion chambers, turbine blades, and exhaust nozzles of jet engines.
 - **Tourism** is also a potential source of income, as the islands have several volcanoes and a variety of birdlife.
- **Strategic Importance:**
 - Russia has deployed **missile systems** in the region.
 - Russia also plans a **submarine project** and intends to prevent any American military use of the islands.
- **Cultural Importance:**
 - The Japanese people, especially conservatives in Hokkaido, are emotionally attached to the islands.

Historical Background of Kuril Islands Dispute

- **Sovereignty Issue of South Kuril Islands:**
 - The Kuril Islands dispute between **Japan and Russia** is over the **sovereignty of South Kuril Islands**.
 - The South Kuril Islands comprises **Etorofu island, Kunashiri island, Shikotan island and the Habomai island**. These islands are **claimed by Japan but occupied by Russia** as successor state of the Soviet Union.

- These islands are known as **Southern Kurils** by **Russia** whereas **Japan** calls them **Northern Territories**.
- **Original Inhabitants-Ainu People:**
 - The Kurils were **originally inhabited by the Ainu people**, and they were later settled by the Russians and Japanese, following several waves of exploration in the **17th and 18th centuries**.
 - The Ainu or the Aynu, also **known as the Ezo** in the historical Japanese texts, are an indigenous people of Japan and Russia.
- **Treaty of Shimoda (1855):**
 - In **1855**, Japan and Russia concluded the **Treaty of Shimoda**, which gave control of the four southernmost islands to Japan and the remainder of the chain to Russia.
- **Treaty of Saint Petersburg (1875):**
 - In the **Treaty of Saint Petersburg**, signed between two countries in **1875**, Russia ceded possession of the Kurils to Japan in exchange for uncontested control of Sakhalin Island.
- **Yalta Agreement (1945):**
 - In **1945**, as part of the **Yalta agreements (formalized in the 1951 Treaty of Peace with Japan)**, the islands were ceded to the Soviet Union, and the Japanese population was repatriated and replaced by Soviets.
 - The **San Francisco Peace Treaty** signed between the Allies and Japan in 1951, states that Japan must give up “all right, title and claim to the Kuril Islands”, **but it also does not recognize the Soviet Union’s sovereignty over them**.
- **Japan-Soviet Joint Declaration (1956):**
 - The dispute over the islands has **prevented the conclusion of a peace treaty to end World War II**.
 - In 1956, diplomatic ties were restored between Japan and Russia by **Japan-Soviet Joint Declaration**.
 - During that time, Russia offered to give away the two islands closest to Japan. But the offer was rejected by Japan as the two islands constituted **only 7% of the land** in question.
- **Developments After 1991:**

- Despite a series of agreements, the dispute continues and **Japan still claims historical rights to the southernmost islands** and has tried repeatedly to persuade the Soviet Union and, from 1991, Russia to return those islands to Japanese sovereignty.
- In **2018**, the Russian President and the Japanese Prime Minister (PM) met on the sidelines of the **East Asia Summit** and decided to end the territorial dispute by Japanese PM agreeing to negotiate based on the 1956 declaration.
 - This implicitly showed that Japan has given up the two islands to maintain peace with Russia.
 - However, Russia indicated that the joint declaration signed by Japan and the Soviet Union in 1956 **neither mentions a basis for returning Habomai and Shikotan nor clarifies which country has sovereignty over the islands.**
- Further, in **2019**, Japanese PM made it clear that the country is **not in the favour of withdrawing control over the Islands**. Japan also believes that the islands are the inherent part of the nation's territory. Therefore, Japan mentioned that it aims to sign the peace treaty after the territorial issue is resolved.

46. COVID-19 Loans by Indian Bank

Why in News

Recently, **Indian Bank** which is a **public sector lender**, has announced special emergency loans for various categories of customers such as individuals, corporates, **Medium, Small and Micro Enterprises (MSMEs)** and **self-help groups (SHGs)**, retail borrowers and pensioners in the wake of the **pandemic COVID-19**.

- It is expected that these credit lines will meet the immediate liquidity requirements of businesses and other sections of the society.

Key Points

- **Ind-Covid Emergency Credit Line:**
 - It will provide **additional funding of up to 10% of the working capital limits** (fund-based and non fund-based) with a maximum limit of ₹100 crore.
 - **Large corporates and medium enterprises** that are in the standard category would be eligible for this loan.
 - The **loans** would only carry a fixed interest rate of one-year MCLR (**marginal cost of funds based lending rate**). All other charges are waived.

- **Ind-MSE Covid Emergency Loan:**
 - It will provide an **additional funding of 10% of fund-based working capital limits** subject to a maximum of ₹50 lakh to all MSMEs.
- **SHG-Covid-Sahaya Loan:**
 - Under this, each member can avail a **soft loan of ₹5,000 and ₹1 lakh per SHG.**
 - The loan is **for 36 months** with a six months moratorium.
- **Ind-Covid Emergency Salary Loan:**
 - It will be given to **salaried employees** up to an **amount equivalent to 20 times the latest monthly gross salary** subject to a maximum of ₹2 lakh.
 - This is to meet urgent medical and other expenditure.
 - The loan will be given at a **concessional rate of interest** and all charges are waived.
- **Ind-Covid Emergency Pension Loan:**
 - It is **provided up to 15 times of monthly pension** subject to a maximum of ₹2 lakh, with a **60 month repayment tenor.**
 - Interest is charged at concessional rates interest and all other charges are waived.

Indian Bank

- It is an Indian **state-owned public sector lender.**
- It was established on **15th August 1907** as part of the **Swadeshi movement.**
- It is **headquartered in Chennai.**

Marginal Cost of Funds based Lending Rate

- It is the minimum interest rate, below which a bank is not permitted to lend, though RBI can give authorization for the same in exceptional cases. It depends on factors such as fixed deposit rates, source of funds and savings rate.

Swadeshi Movement

- It started in **1905** was **one of the most successful movements** of the Pre-Gandhian era.
- **Causes:** Punjab land alienation Act of 1900, Passing of Indian university commission Act 1904, Partition of Bengal in 1905, economic exploitation, etc.
- **Methods and instruments:** It initially adopted **passive resistance** but the movement gained momentum and a more **active form of resistance.**

- **Impact:** It led to significant decline in the foreign imports during 1905-1908, building of self-reliance and gave the strength to masses to disobey the British. However, it set **undertones for communal disharmony and extreme nationalism.**

47. 'Contact tracing' and its significance to control disease outbreaks

As the number of coronavirus cases in India increases, authorities in different states are relying on contact tracing, a concept in epidemiology that involves tracing the number of people an infected person comes in contact with.

The idea behind contact tracing is to stop the outbreak by breaking the transmission chains.

What is Contact Tracing?

- Contact tracing is not a novel concept and has been used as a method to track cases of the Ebola virus in Africa.
- It is one of the methods of detecting an outbreak and the number of infected people.
- In 2014, when the first Ebola cases began to be reported in Sierra Leone, a contact tracing mechanism was devised.
- According to the Centre for Disease Control (CDC), the system in the district was able to identify 13 Ebola cases, which would have been overlooked otherwise.

Various steps involved

According to WHO contact tracing can be broken down into three steps:

1) Contact identification:

- This involves identifying the contacts of the infected person by asking about the person's activities and those of people around them since the onset of illness.
- In the case of the first positive COVID-19 patient from Chandigarh for instance, a chain of 119 people was traced directly or indirectly to the patient.

2) Contact listing:

- This means listing all those people who came in contact with the infected person.
- Efforts should be made to identify every listed contact and to inform them of their contact status, what it means, the actions that will follow, and the importance of receiving early care if they develop symptoms.
- In some areas across India, authorities are releasing lists of those who are quarantined and are identifying their houses by putting quarantine posters in front of their houses.

3) Contact follow-up:

- This step involves regular follow-ups with all the contacts to monitor for symptoms and test for signs of infection.

Limitations of Contact Tracing

- Since everyone has many contacts, contact tracing is useful when there are only a few cases.
- At this point, in many countries, we have so many cases that everyone would be contacted. This is essentially the lockdown – everybody isolates.
- However, while a fifth of the world's population is currently isolated and under lockdown, it may not be feasible to trace contacts of all the infected patients given the scale of the current outbreak.

Way forward

- While contact tracing is an important step during a disease outbreak, it is insufficient alone in controlling it, requiring other interventions.
- Rapid and effective contact tracing can reduce the initial number of cases, which would make the outbreak easier to control overall.
- Effective contact tracing and isolation could contribute to reducing the overall size of an outbreak or bringing it under control over a longer time period.

48. The deep void in global leadership

Context:

- COVID-19 pandemic and the need for global coordination.

Background:

Lack of coordination:

- World leaders are overwhelmed with their own national challenges and do not appear inclined to view the **pandemic as a common enemy against mankind**.
- The pandemic has caused loss of human life, regardless of citizenship and race, and has ravaged economies across continents. Yet, there is as yet **no comprehensive, concerted plan of action by global leaders to combat this crisis**.
- The rapid spread of the COVID-19 pandemic across the world has exposed the **lack of collective leadership at the global level**.

Wrong strategy:

- **The G20 recently had a virtual meeting regarding the COVID-19 crisis.** The G20 leaders have agreed to **inject \$5-trillion into the world economy** to partially counter the economic impact of the pandemic. Though this comes as a welcome relief, taking collective ownership to fight a global war against the virus will **need more than an economic solution.**
- The typical response by all affected nations has been limited to imposing 'National distancing' by closing borders. Though this is right, there have been **no additional efforts.**
 - China delayed reporting the virus to the World Health Organization (WHO), and perhaps, in the process, contributed to the rapid spread of the virus across the globe.
 - The U.S. administration did not even inform the European Union before it shut off flights from Europe. This **lack of communication** could have detrimental effects in the fight against the pandemic.
 - All countries are **working separately on drug and vaccine development.**

Details:

Need for coordination:

Need for global eradication:

- The assumption that nations would be able to control the virus with only domestic shutdowns might be just wishful thinking.
- As long as the virus is alive in some corner of the world, it would resume its travel across the world the moment international travel restrictions are relaxed. Epidemiologists point out that unless herd immunity develops, **the virus will remain alive and strike whenever there is a lowering of guard.**
- It is not possible to keep international travel suspended till the virus is completely eradicated. National shutdowns and physical distancing have been a challenge. Such lockouts come at enormous economic and social costs.
- **Only global efforts can ensure the global eradication of the virus.** Hence, global action is both relevant and of critical importance in the context of the present pandemic.

Common problem:

- Given the **high level of globalization**, the fortunes of nations are closely intertwined. Given the scale and intensity of the crisis, all nations remain affected and hence need to work together to come out of it.

Challenges:

- Two developments in the global polity in the last few years have contributed to the indifference towards collective global action.

Swing towards right-wing nationalism:

- Right-wing nationalism has become the guiding political ideology, in **large parts of the world** and particularly in the U.S.
- The nationalist ideology presumes global good being in conflict with national interests. Such countries chose national, **short-term economic interests over global interests**.
- The decision to withdraw from the Paris Accord on climate change, on the ground that the accord would undermine U.S. economic interest is a classic demonstration of narrow nationalism against global interests.

Ineffectiveness of the multilateral institutions:

- **The United Nations, based on the principle of collective action**, has failed to live up to its expectations to maintain peace among nations in the nearly 80 years since its formation.
- **The affiliate organizations of the UN have also failed to deliver on their mandates.** The WHO, with the mandate to be the directing and coordinating authority among member countries in health emergencies, has proven to be too sluggish in reacting to pandemics in the past. Its responses to COVID-19 has come under the scanner for lack of intellectual integrity.

Way forward:

Need for collective actions:

- Given the global nature of the challenge, efforts to address it need collective global leadership. There is an emergent need for leaders of nations to **come together for collective global action**.

India's role:

- The initiative taken by India to convene a meeting of the South Asian Association for Regional Cooperation countries stands out in present times.
- India should **catalyse collective global action**.

G20 as a platform:

- A nimble outfit, not burdened with bureaucracy, is required to manage a global crisis like the COVID-19. **G20, with co-option of other affected countries**, might serve this purpose for the present. G20 offers an appropriate **ready mechanism for global cooperation**.

Rapid mobilization of relevant resources:

- The global collective should ensure that shortages of **drugs, medical equipment and protective gear** do not come in the way of any nation's capacity to contain or fight the pandemic.

- Nations that have succeeded in bringing the pandemic under control, such as China, Japan or South Korea, with the capability to step up production at short notice should meet the increasing demand from other countries.
 - The global mobilization of resources would require development of an **information exchange** on global production capacity, present and potential, demand and supply.
 - Given the controls on international traffic and national shutdowns, **protocols might need to be put in place** among participating countries to ensure seamless logistics for the supply chain for essential goods and services to function efficiently.

Medical collaboration:

Information exchange on clinical trials:

- There needs to be **instantaneous exchange of authenticated information** on what clinical solutions have succeeded and what has not.
- While there is no substitute to classic clinical proof, the more **field-level information** is shared within the medical community the better will be the success rates of clinical trials in finding a treatment regime for COVID-19.

Collaboration on drug development:

- There is a need to ensure **cross-country collaboration on laboratory trials and clinical validation for vaccines and anti-viral drugs**.
- The best way to ensure speedy research is to pool global resources. Such a framework might be necessary for sustained collaborations for future challenges too.

Facilitate cross country movement of health professionals:

- There is a need to **facilitate easy movement of trained health professionals** across the world to train others and augment resources wherever there are shortages.
- Nations should come together to organise a global pool of medical personnel to fight the pandemic. The findings of **field experience should be shared** among the global community of medical personnel.

Ensuring basic needs:

- The world might anticipate food shortages occurring sooner or later, in some parts of the world, consequent to the national shutdowns.
- This increases the risk of losing lives to starvation and malnutrition, if adequate precautions are not taken. Addressing this will require coordinated global action.

Post pandemic efforts:

- The economic devastation caused by the pandemic is huge. Given the fact that economies of the world are intertwined, an orderly reconstruction of the global economy would be required.
- The new global economy based on the ideals of equity and inclusivity will require **renegotiating terms of trade among key trading blocs**, concerted action among central bankers to stabilise currencies, and a responsible way to regulate and manage global commodity markets.
- This millennium has already suffered three pandemics and COVID-19 will certainly not be the last. **Future pandemics** are a certainty and nations should create a **framework for coordination for such scenarios**.

49. COVID-19 and Medical Solutions

Why in News

According to the **World Health Organization (WHO)** the virus **SARS-CoV-2**, has caused the world's largest pandemic infecting nearly six lakh people globally.

- Considering the grave scenario the **discovery of vaccine and the licensed use of a drug** has been **ruled out as an immediate solution** noting that even if the process is fast-tracked, a process would **take over 18 months to be ready for use**.
- Hence, WHO and other health agencies are re-looking the efficacy of **known therapies** such as **convalescent plasma therapy and drugs** to treat COVID-19.
 - The known drugs include a **combination of two HIV drugs- lopinavir and ritonavir, anti-malaria medications- chloroquine and hydroxychloroquine, and antiviral compound namely, remdesivir.**

Efficacy of Known Drugs

- **Anti-Malaria Medications : Chloroquine and Hydroxychloroquine**
 - The **Indian Council of Medical Research (ICMR)**, has suggested the use of **hydroxy-chloroquine to contain the spread of SARS-CoV-2 (Coronavirus) for restricted populations.**
 - Also, the small study conducted in **France** found that it led to a **significant reduction in viral load in COVID-19 patients.**
 - However, Hydroxychloroquine is known to have a **variety of side-effects**, and can in some cases damage the organs like the heart.
- **HIV Drugs- Lopinavir and Ritonavir**

- The combination drug, ritonavir/lopinavir was introduced **to treat HIV infections**.
- It was experimented in China with COVID-19 patients but there was **no significant difference observed among them**.
- Although the drug is generally safe, it **may interact with other drugs** usually given to severely ill patients with other diseases.
- The drug could cause significant **liver damage**.
- **Antiviral Compound-Remdesivir**
 - The drug, remdesivir is developed to **treat Ebola and related viruses**, is being tested to find out whether it can be used on COVID-19 patients.
 - According to WHO, the drug helps to **prevent COVID-19 viral replication**.
 - It has the best potential and **can be used in high doses without causing toxicities**.

Convalescent Plasma Therapy

- **Basis of the Therapy:**
 - The convalescent plasma therapy seeks to make **use of the antibodies developed in the recovered patient** against the coronavirus.
 - The **whole blood or plasma** from such people is taken, and the plasma is then injected in critically ill patients so that the **antibodies are transferred** and boost their fight against the virus.
- **Time Period for Infusion:**
 - A study in The Lancet Infectious Diseases stated that a COVID-19 patient usually **develops primary immunity against the virus in 10-14 days**.
 - Therefore, if the plasma is **injected at an early stage**, it can possibly help fight the virus and prevent severe illness.
- **Infusion into COVID-19 Patients:**
 - The plasma can be infused into two kinds of COVID-19 patients— those with a **severe illness, or individuals at a higher risk of getting the virus**.
 - However, while plasma transfers immunity from one person to another, it is **not known if it can save lives** in COVID-19 infection.
 - The treatment could be **effective for patients in the age group 40-60**, but may be **less effective for people aged beyond 60 years**.
- **Previous Application of the Convalescent Plasma Therapy:**

- The **United States** used plasma of recovered patients to treat patients of **Spanish flu (1918-1920)**.
- **Hong Kong** used it to treat **SARS (Severe Acute Respiratory Syndrome)** patients in **2005**.
- In **2009**, the **swine flu (H1N1)** patients were treated with plasma.
 - A study in Oxford University's journal *Clinical Infectious Diseases* found that "convalescent plasma reduced respiratory tract viral load, serum cytokine response, and mortality" in H1N1 patients.
- **WHO Guidelines (2014):**
 - WHO guidelines in 2014 mandate a **donor's permission before extracting plasma**.
 - Plasma from **only recovered patients must be taken**, and donation must be done from people not infected with HIV, hepatitis, syphilis, or any infectious disease.
 - If whole blood is collected, the plasma is separated by sedimentation or centrifugation, then injected in the patient.
 - If plasma needs to be collected again from the same person, it must be done after 12 weeks of the first donation for males and 16 weeks for females.
- **Application in India:**
 - Currently, India has facilities for removing **500 ml of plasma** from a donor.
 - For this experimental therapy, the Drug Controller General of India will first have to grant blood banks approval for removal of plasma from recovered COVID-19 patients.
 - In India, the **special care of the risk of infection during transfusion** needs to be taken care of.

Relapse in Patients Recovered from COVID-19

- Patients who test positive for COVID-19 develop protective antibodies. Theoretically, **there can be a relapse even in patients who have antibodies**. There are various reasons for such relapsing of COVID-19, some of them are:
 - **Mutation of the Virus:**
 - The **probable mutations**, is one of the major reasons for making an individual vulnerable to reacquire the COVID-19 infection.
 - **Unknown Behaviour of the Virus:**

- Since the exact behaviour of the novel coronavirus is still being studied, **immunity against it is not fully understood.**
- At this stage, it is not fully understood as to **how long the antibodies provide protection** against the viral infection.
- Also, in the **absence of any vaccination**, it is not known whether the **immunity acquired by the persons is permanent.**
- **False RT-PCR test (Reverse Transcription Polymerase Chain Reaction) Test:**
 - It has been observed that a “false negative” **RTPCR test** – the RNA test being conducted to diagnose COVID-19 infection – can lead to a patient testing positive a second time after testing negative in between.

50. Covid-19 Lockdown & Improved Air Quality

Why in News

The nationwide **lockdown**, to prevent **COVID-19**, has led to minimal air pollution in over 90 cities including Delhi.







- Environmentalists have welcomed the reduction in pollution and have urged the government to treat it as a wake-up call and stop the development at the cost of the environment.

Key Points

- During the lockdown, the government has asked the people to **avoid unnecessary travel** which has **significantly reduced the traffic** movement.
- Other factors which have contributed to the improved air quality are **shutting down of industries and construction sites and rains.**
- According to the **centre-run System of Air Quality and Weather Forecasting and Research (SAFAR)**, the measures against COVID-19 have led to a drop in:
 - **PM2.5**
 - It is an atmospheric **Particulate Matter** of **diameter of less than 2.5 micrometres**, which is around 3% of the diameter of a human hair.
 - It causes respiratory problems and also reduces visibility. It is an endocrine disruptor that can affect insulin secretion and insulin sensitivity thus contributing to diabetes.

○ **Nitrogen Oxide (NOx)**

- NOx pollution is mainly caused due to a high motor vehicle traffic and can increase the risk of respiratory conditions.
- Generally in March, pollution is in the moderate category in the Air Quality Index while currently, it is in the satisfactory or good category.
- Under the **good category, pollution** is considered to be at the **lowest** and the **air** is believed to be the **healthiest to breathe**.
- According to the **Central Pollution Control Board (CPCB)** data:
 - Air quality in the National Capital Territory of **Delhi** is presently in the **good** category.
 - **Kanpur**, which has high pollution levels normally, is in the **satisfactory** category.
 - 92 other cities with CPCB monitoring centres have recorded minimal air pollution, with the air quality ranging between good and satisfactory.

AQI	Remark	Color Code	Possible Health Impacts
0-50	Good		Minimal impact
51-100	Satisfactory		Minor breathing discomfort to sensitive people
101-200	Moderate		Breathing discomfort to the people with lungs, asthma and heart diseases
201-300	Poor		Breathing discomfort to most people on prolonged exposure
301-400	Very Poor		Respiratory illness on prolonged exposure
401-500	Severe		Affects healthy people and seriously impacts those with existing diseases

▪ **Observations and Suggestions:**

- The low AQI and the blue skies prove that **air pollution was mostly anthropomorphic** (man-made), which **can be reduced** by conscious efforts.
- Reducing air pollution by rapidly slowing down the economy is not an ideal way so **mindful use of technologies** and **low-emission alternatives** can be opted to minimise the pollution.

- It was also emphasised that air pollution weakens the lungs so **countries like India with higher pollution and lower nutrition levels** will be **more affected by COVID-19** leading to higher morbidity and deaths.

Air Quality Index

- The AQI is an index for reporting **daily air quality**.
- It focuses on health effects one might experience within a few hours or days after breathing polluted air.
- AQI is **calculated for eight major air pollutants**:
 - **Ground-level ozone**
 - It is also found in the **stratosphere** and **protects from ultraviolet (UV) rays**, while in the **troposphere (ground level)** it acts as a **pollutant**.
 - It is not a primary pollutant but a secondary one.
 - Ground-level ozone is not emitted directly into the air but is **created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight**.
 - PM10
 - PM2.5
 - Carbon monoxide
 - **Sulfur dioxide**
 - Nitrogen dioxide
 - Ammonia
 - Lead
- **Ground-level ozone and airborne particles** are the two pollutants that pose the **greatest threat to human health** in India.

GS 3 : Economy, Science and Technology, Environment

1. Why has Kerala sought a relaxation of FRBM rules?

Kerala CM has urged the Centre to provide Kerala with flexibility under the Fiscal Responsibility and Budget Management (FRBM) Act so as to ensure that the State's finances are not adversely impacted.

The FRBM Act

- The FRBM Act 2003 aims to institutionalize financial discipline, reduce India's fiscal deficit, improve macroeconomic management and the overall management of the public funds by moving towards a balanced budget and strengthen fiscal prudence.
- The main purpose was to eliminate revenue deficit of the country (building revenue surplus thereafter) and bring down the fiscal deficit to a manageable 3% of the GDP by March 2008.
- However, due to the 2007 international financial crisis, the deadlines for the implementation of the targets in the act was initially postponed and subsequently suspended in 2009.
- To ensure that the States too are financially prudent, the 12th Finance Commission's recommendations in 2004 linked debt relief to States with their enactment of similar laws.
- The States have since enacted their own respective Financial Responsibility Legislation, which sets the same 3% of State GDP cap on their annual budget deficits.

Why is Kerala seeking flexibility under the FRBM?

- Kerala was one of the earliest States to announce an economic package of ₹20,000 crore to mitigate the impact on livelihoods and overall economic activity.
- Kerala's current fiscal position means that it can borrow about ₹25,000 crore during the financial year 2020-21.
- However the State government is understandably concerned that the stringent borrowing cap under the fiscal responsibility laws should not constrain its borrowing and spending ability over the remaining 11 months.
- This is a crucial period when the state would have to meet other expenditure for routine affairs related to the running of the State's socio-economic programmes as well as the post pandemic recovery.

How does a relaxation of the FRBM work?

- The law does contain what is commonly referred to as an 'escape clause'.
- Under Section 4(2) of the Act, the Centre can exceed the annual fiscal deficit target citing grounds that include national security, war, national calamity, collapse of agriculture, structural reforms and decline in real output growth of a quarter by at least three percentage points below the average of the previous four quarters.
- The ongoing pandemic could be considered as a national calamity.
- This would allow both the Union government and States including Kerala to undertake the much-needed increases in expenditure to meet the extraordinary circumstances.

When have the FRBM norms been relaxed in the past?

- There have been several instances of the FRBM goals being reset.
- But the most significant FRBM deviation happened in 2008-09, in the wake of the global financial crisis, when the Centre resorted to a focused fiscal stimulus: tax relief to boost demand and increased expenditure on public projects.
- This was aimed to create employment and public assets, to counter the fallout of the global slowdown.
- This led to the fiscal deficit climbing to 6.2%, from a budgeted goal of 2.7%.
- Simultaneously, the deficit goals for the States too were relaxed to 3.5% of GSDP for 2008-09 and 4% of GSDP for fiscal 2009-10.

2. The cost of the lockdown is pegged at about \$120 billion (GS-3)

Context:

The complete 21-day COVID-19 shutdown of most economic activity has created new roadblocks, causing severe disruptive impact on both demand and supply side elements across sectors. The cost of the lockdown is pegged at around \$120 billion (approximately ₹9 lakh crore) or 4% of the GDP.

Concerns:

- 90% of India's workforce is employed in the unorganised sector and this lockdown will effectively put over 45 million migrants living off daily earnings out of work.
- Sectors like construction projects, mobility services, housekeeping and other informal sector employment will come to a sudden halt.
- The manufacturing sector faces a triple challenge.
 - First, there are going to be serious supply chain disruptions not just when dealing with foreign parties, but also the domestic industry.
 - Second, sectors like automobiles, pharmaceuticals, electronics, chemical products, etc., are facing an imminent raw material and component shortage.
 - Third, the shutdown and resulting loss of revenue is certain to cause a number of bankruptcies and closures, especially in the MSME sector with corresponding disruption to supply chains.

On the demand side, several industries would get impacted starting with consumer durable goods and will cascade to other intermediate goods and basic goods.

The government was the major spender on investment in the infrastructure sector, which will slowdown now with resources and attention being diverted. Hence, industries like steel and cement, which did well last year, will stumble.

The services sector will see a fall in demand. These include aviation, hotels, restaurants, tourism, retail malls, etc. The real estate sector, which was already in deep trouble, could well slide even more, in the medium term at least.

Even 10-20% job losses among its 7.3 million employees in restaurants across the country would mean up to 15 lakh unemployed. Any delay in addressing the economic consequences will lead to massive job losses.

Southern India Chamber of Commerce & Industry (SICCI) suggests the following:

- The Reserve Bank of India (RBI) has to address two problems:
 1. Transmission on rate cuts has been inadequate. Rate cuts by themselves are unlikely to stimulate demand as the primary cause for demand contraction will be on account of consumer confidence being low.
 2. SICCI feels that only the stronger firms in any sector can have the capacity to keep salary payments going, in the absence of any revenue earnings. Firms cannot be expected to drain their already stretched cash-flows. To tide over the present crisis, banks should give three months' salary as overdraft facility to the employees of companies which can be escrowed to the companies with a nominal rate of interest not exceeding 3%.
- The government could lend support through tax holidays and zero-interest loans for three months.
- In the case of services sector, the government should consider contributing the employer's share of PF for all employees earning less than ₹20,000 per month and ESI contribution for all employees earning below the statutory threshold level of ₹21,000 per month, for a period of 12 months.
- For firms that have difficulties in managing their cash flows, the government should extend a government-backed loan guarantee, on the basis of which firms can raise loans on preferential terms to the extent of 25% of their existing working capital arrangements.
- All rating agencies may be advised to suspend rating reviews till the lockdown is over.
- The RBI needs to come up with a special window to provide liquidity to NBFCs and microfinance institutions in this period.
- The government should ensure that all refunds across tax legislation – up to 75% should be given without any verification and any wrongful claim can be recovered without any interest.
- Private sector hospitals need to be encouraged to provide specific number of isolation wards to the poor and extended financial assistance on soft terms.
- Export incentive schemes like Sec. 10AA for SEZ units under the I-T Act should be extended up to March 31, 2021. Further, the recent Import Export Policy should be extended for one more year. In the absence of new Export/Import Policy, all export incentives viz. MEIS, SCIS, EPCG license, etc. should be extended for one more year. All charges including port charges, penal charges, demurrages should be waived. Further, all agencies viz. ports, air cargo terminals, all custodians of cargo and all shipping lines have to waive penal charges.

- Fixed charges levied may be waived and the industry may be charged only on the actual consumption of electricity.
- Immediate refund of IGST will help exporters in dealing with liquidity issues.
- In order to have Business Continuity Plans where the economy is better prepared for a work from home mode, the government should halve GST rates on all laptops, routers, cloud services, dongles and such other equipment and services.
- All companies should be asked to devote their CSR funds exclusively towards the creation of clean quarantine centres, and addition of hospital beds, ventilators and PPEs, besides investing in testing and other facilities aimed at preventing the spread of the virus. High Net-worth Individuals should be encouraged to do likewise.
- Women's Self-Help Groups and the informal sector should be asked to produce masks, hand sanitisers, among others in a big way.
- Banks should be asked to fund these activities and State governments should arrange for the marketing of these products to their local primary health centres.

3. A threat to food security (GS-2/3)

Context:

The article talks about the challenges posed by the COVID-19 pandemic to food security.

Background:

- The COVID-19 pandemic is putting an enormous strain on public health systems around the world. The large scale lockdowns and travel restrictions will entail economic and social hardships.

Details:

Food security for all:

- Despite some reports of panic buying and shortage in supermarkets, as of now, COVID-19 has not entailed much strain on **food security**.
- Though there is **enough supply of food in the world to feed everyone**, the world must prepare to face the enormous risk that **food may not be made available where it is needed**.
- The present crisis posed by the pandemic could become all the more worse if there is a **disruption of food supply chains leading to shortage of food for millions**. This would contribute to the increasing number of fatalities.
- A globally coordinated and coherent response is needed to **prevent this public health crisis from triggering a food crisis** in which people cannot find or afford food.

Concerns:

- There are concerns that the pandemic and the measures in place to contain the spread of the coronavirus may lead to the **disruption of food supply chains**.

Backward linkage factors:

- The closure of industries might lead to the **shortage of fertilizers, veterinary medicines** and other input, which could affect agricultural production.
- Restrictions of movement may **impede farmers from farming**.
- The **non availability of labour** might also affect the farmers in developing countries which are still reliant on labour for farming activities like sowing, harvesting and weeding operations.
- The disruptions in the supply chains could affect the **availability of quality seeds** for the farmers.

Forward linkage factors:

- The closures and lockdowns have created **logistical bottlenecks** that affect the long value chains of the modern global economy.
- Restrictions of movement and closure of industries may **impede food processing industries**, which handle a large share of the agricultural products.
- The closures of restaurants and grocery shops and supermarkets operating at less than optimal levels may diminish **demand for fresh produce and fisheries products**.
- This reduced demand will affect both producers and suppliers given the fact that perishables like fruits, vegetables and animal products do not have long shelf lives. The **lack of sufficient and quality warehousing facility** will only exacerbate the crisis.
 - The Rabi season's wheat procurement has been delayed in states like Punjab and Haryana due to Covid-19. Labour shortage and lack of adequate transportation are set to hit the process. The lack of quality storage facilities has raised the fears of spoilage of the produce.

Long term impact on food security:

- The reduced demand and reduced prices and subsequently the **reduced income would be especially severe on smallholder farmers**.
- The retreat of these smallholder farmers from farming would have **long-term consequences** for the world's increasingly urbanized population and its food security.

Threat of wrong policy decisions:

- Uncertainty about food availability can induce policymakers to **implement trade restrictive measures** in order to safeguard national food security.

- During the **2007-2008 global food price crisis**, **export restrictions** were put in place by exporting countries to increase food availability domestically.
 - This led to serious **disruptions in the world food market**, resulting in price spikes and **increased price volatility**.
 - The measures proved extremely damaging, especially for low-income food-deficit countries and to the efforts of humanitarian organizations to procure supplies for the needy and vulnerable.
 - The restrictions only exacerbated the situation.

There is the need to guard against such **hasty policy decisions**.

Exacerbate the suffering of the poor:

- The **poorest countries face severe nutritional challenges**.
 - There are 113 million people experiencing acute hunger in the world.
 - In sub-Saharan Africa, a quarter of the population is undernourished.

Any disruptions to food supply chains will **intensify both human suffering and the challenge of reducing hunger around the world**.

Any food crisis as a result of poor policymaking will lead to a **humanitarian disaster**.

Way forward:

- The global community must take immediate actions to minimize disruptions to food supply chains.

Global approach:

- Policymakers must **avoid tightening food supply conditions**.
- Though every country faces its own challenges, **collaboration between governments** and the other sectors and stakeholders is very important.
- The global problem requires a global response to be dealt with. **Global markets are critical for smoothening supply and demand shocks across countries and regions**.

Credible information:

- To maintain the proper functioning of the food markets, there is a need to ensure that **information on prices, production, consumption and stocks of food** is available to all stakeholders in real time.
- This approach will **reduce uncertainty** and allow producers, consumers, traders and processors to make informed decisions and to contain unwarranted panic behaviour in global food markets.

Government's role:

- Given the vulnerability of the poor, the **government must take responsibility to ensure food security to the poor and needy** during this period.

- The government must also **support the farmers**, especially the small and marginal farmers to ensure sufficient resources are available for them to carry on their farming.
- The government should collaborate with relevant stakeholders and sectors to ensure that disruptions of food supply chains are minimized as much as possible.

4. Flexibility Under the FRBM Act

Why in News

Recently, the State government of Kerala has sought flexibility under the Fiscal Responsibility and Budget Management (FRBM) Act.

- This is to ensure that fiscal stimulus in the wake of COVID-19 does not get deterred by FRBM considerations.

Reasons for Seeking Flexibility

- According to Kerala's current fiscal position, Kerala can borrow about ₹25,000 crore during the financial year 2020-21.
- Kerala has announced an **emergency relief package of worth Rs. 20,000 crore** to mitigate the impact on livelihoods and overall economic activity from the sweeping steps taken to battle the COVID-19 pandemic, including the latest 21-day nationwide lockdown.
- The State has proposed to borrow as much as ₹12,500 crore from the market at the start of the financial year (April -March).
- The government is concerned that the stringent **borrowing cap under the fiscal responsibility laws should not constrain its borrowing and spending ability** over the remaining 11 months.
 - During the 11 months, the government will have to take not only COVID-19 mitigation measures but would also have to meet other expenditure for routine affairs related to the running of the State's socio-economic programmes as well as the post pandemic recovery.

FRBM Act

- It was enacted in **August 2003**.
- It aims to make the Central government responsible for ensuring inter-generational equity in fiscal management and long-term macro-economic stability.

- The Act envisages the **setting of limits on the Central government's debt and deficits**.
 - It limited the fiscal deficit to 3% of the GDP.
- To ensure that the States too are financially prudent, the 12th Finance Commission's recommendations in 2004 linked debt relief to States with their enactment of similar laws.
 - The States have since enacted their own respective **Financial Responsibility Legislation**, which sets the same **3% of Gross State Domestic Product (GSDP) cap on their annual budget deficits**.
- It also mandates **greater transparency in fiscal operations** of the Central government and **the conduct of fiscal policy in a medium-term framework**.
 - The Budget of the Union government includes a **Medium Term Fiscal Policy Statement** that specifies the annual revenue and fiscal deficit goals over a three-year horizon.
- The rules for implementing the Act were notified in July 2004. The rules were amended in 2018, and most recently to the setting of **a target of 3.1% for March 2023**.
- **The NK Singh committee** (set up in 2016) recommended that the government should target a fiscal deficit of 3% of the GDP in years up to March 31, 2020 cut it to 2.8% in 2020-21 and to 2.5% by 2023.

Relaxation under the FRBM Act

- **Escape Clause:**
 - Under **Section 4(2) of the Act**, the Centre can exceed the annual fiscal deficit target citing certain grounds.
 - The grounds include
 - National security, war
 - National calamity
 - Collapse of agriculture
 - Structural reforms
 - Decline in real output growth of a quarter by at least three percentage points below the average of the previous four quarters.
- The lockdown could cause severe contraction in economic output and the COVID-19 pandemic could be considered as a national calamity.

- Also, the government has already made the use of escape clause this year.
Instances of the FRBM Norms been Relaxed in the Past
- During the **Budget 2020-21** presentation:
 - The **reductions in corporate tax** were cited as **structural reforms** that triggered the **escape clause**. This implies that this year the government has already made use of the escape clause
 - **This enabled the government to adjust the fiscal deficit target** for 2019-20 to 3.8%, from the budgeted 3.3%.
 - It was also cited that the impact of the reforms would also necessitate a reset for 2020-21: from the earlier deficit target of 3% to 3.5%.
- During the **global financial crisis in 2008-09**:
 - The Centre resorted to a focused fiscal stimulus: tax relief to boost demand and increased expenditure on public projects **to create employment and public assets**, to counter the fallout of the global slowdown.
 - This led to the fiscal deficit climbing to 6.2%, from a budgeted goal of 2.7%.
 - Simultaneously, **the deficit goals for the States too were relaxed** to 3.5% of Gross State Domestic Product(GSDP) for 2008-09 and 4% of GSDP for fiscal 2009-10.

5. Shift to upscaling food rationing now (GS-3)

Context:

The Finance Minister has announced a **₹1.7-lakh crore package of social security measures** to deal with the COVID-19 pandemic in the period of the 21-day lockdown.

Details:

The topic has been comprehensively covered in 27th March 2020 Comprehensive News Analysis. [Click here](#) to read.

Issues:

- The **burden of the current lockdown is borne disproportionately by the large unorganised workforce**, comprising hundreds of millions of casual daily wage-workers and self-employed workers.
- India already holds the record for the **largest number of malnourished persons in the world**. As their ability to purchase food diminishes, a growing population of working people and their families will soon enter a phase of hunger and undernourishment.
- In respect of food security, the package falls far short of what is needed.

Lessons provided by the experience of other countries in using rationing in times of scarcity:

United Kingdom:

- In the **1940s**, in the United Kingdom, rationing or a **policy of “fair shares”** was introduced **in a period of war and scarcity**. Starting in 1939, each and every person was issued a ration book, with a **weekly entitlement** that could be collected at a local grocery store.
- A **remarkable outcome** of the war years was, as Amartya Sen has demonstrated, **a significant improvement in vital statistics including a rise in life expectancy and a decline in the mortality rate**.
- Despite heavy war casualties and a decline in consumer expenditure per capita, life expectancy actually improved.
- In the first six decades of the 20th century, the decade from 1941 to 1950 saw the largest increase in life expectancy in England and Wales.

China’s current strategy:

- In China, the **National Development and Reform Commission (NDRC)**, a planning body, was the **key coordinator along with the Ministry of Commerce in ensuring supplies of basic foods and price stability to the poor**, especially in Wuhan province, the epicentre of the current pandemic.
- The Chinese strategy had multiple components, which included public corporations and ministries, 300 large private companies, 200,000 private stores, and local government institutions. State-owned companies supplied key commodities to Wuhan.
- Special delivery trucks for transport of vegetables were arranged, and the local government organised open-air markets.

India’s timeline:

- In India, **the British introduced rationing in six cities in 1942**, mainly to supply industrial workers with adequate food.
 - Following demands from a strong political movement, **Malabar became the first rural area to implement rationing in 1943**.

In the mid-1960s, the system of rationing or the **Public Distribution System (PDS)** was **made a national universal programme**, which steadily expanded till 1991.

In the 1990s, the policies of liberalisation led to the withdrawal of universal rationing and its replacement by a policy of narrow targeting. Differential entitlements were provided for BPL (Below Poverty Line) and APL (Above Poverty Line) households.

In 2013, the landmark **National Food Security Act (NFSA)**, **ensured legal entitlement to rations and other food-based schemes** (such as mid-day meals in schools).

- Around 75% of rural households, and 50% of urban households, that is, a total of **two-thirds of all households, were eligible** for inclusion (now termed priority households) in the NFSA.
- **The implementation** of the NFSA – notably the PDS, the Mid-day Meal Scheme, and the Integrated Child Development Services scheme – **varies significantly across States**; nevertheless, the infrastructure for distribution of food is in place in all parts of the country.

In the on-going pandemic situation, **Kerala is the first State in India to have announced a package with income support measures and in-kind measures including free rations** of 15 kg (grain) and provision of cheap meals.

The government of Tamil Nadu announced free rations of rice, sugar, cooking oil and dal to all ration card holders. The supply of rations for unorganised workers is to be through Amma canteens.

The Delhi government will give 1.5 times existing entitlements at no cost to all ration card holders.

Way forward:

- To ensure that all people have access to adequate food in the midst of this unprecedented health and economic crisis with potentially high levels of mortality, the **need of the hour is to expand the food security system.**
- The answer to this looming and very real scenario of food insecurity lies in a massive programme of food rationing.
- It is argued that there is a **need to immediately ensure universal rationing with an expanded food basket, and special measures for cooked food in urban areas for the vulnerable population.**
- In India a system of expanded rations must have the following components:
 1. For all rural households, **free rations of rice and wheat at double the normal entitlement must be distributed.**
 - The current entitlement is about half the quantity of daily cereal intake recommended by the Indian Council of Medical Research.
 - The new quantities should be the actual minimum requirement per person per day.

The **provision of rations must be universal**: this is not the time to demarcate households by type of ration card or whether they have a ration card or by any form of biometrics.

- The system of identification of priority households is not error-proof, and no household wrongly excluded should be outside the ambit of rationing today.

For all rural households, additional rations of cooking oil, sugar, salt and lentils should be provided on a regular basis.

- Supplies have to be arranged, the distribution could be weekly or fortnightly in order to ensure smooth availability.
4. If milk, eggs and vegetables (or one or more of them) can be supplied, we can **not only ensure basic food security at the time of a major health crisis, but actually address the burden of malnutrition.**
- For **urban areas**, there is a need for **combination of provision of dry goods and of cooked food**. All households with ration cards can be given the same entitlements as proposed for rural households.
 - For the vast numbers of workers and migrants in towns and cities, however, arrangements for preparation and delivery of cooked food must be set up.
 - The large numbers of closed community kitchens (schools and colleges, company and office canteens, for example) and restaurant workers now sitting idle or laid off can be brought together to undertake a massive programme of provision of cooked meals at subsidised rates.
 - This will require careful planning and technology to distribute food while ensuring physical distancing.
- All the measures proposed must continue for at least three months, and be reviewed afterwards.
 - An imaginative **massive exercise of expanded rations could not only provide aid in this pandemic but also bring in a policy shift that will help sustain a nourished and healthy population.**

6. RBI cuts rates, allows loan moratorium (GS-3)

Context:

- The **economic impact of the COVID-19 pandemic** and Reserve Bank of India's (RBI) efforts to address it.

Details:

- The countrywide **lockdown in place to check the spread of novel Coronavirus** will have an economic impact for India.
- In this light of the unprecedented crisis, the **meeting of the Monetary Policy Committee (MPC) was advanced.**

- In a move aimed at easing the impact of the lockdown, RBI has come out with several measures to **increase liquidity in the economy**.

CRR reduction:

- In a move to infuse sufficient liquidity into the banking system, RBI has **reduced the Cash Reserve Ratio (CRR) requirement** by 100 basis points (bps) for banks. The cash reserve ratio has been reduced from 4% to 3%.
- The minimum daily requirement of maintaining CRR balance has also been reduced to 80% from 90%.
- With the reduction in CRR requirements, **banks can deploy the liquidity in interest-earning assets**.

Reduction in key interest rates:

- The RBI has **reduced the key interest rates of repo and reverse repo rates sharply**.
- The repo rate was reduced by 75 bps to 4.4% while the reverse repo rate was cut by 90 bps point to 4%.
 - The higher reduction in the reverse repo rate was aimed at prompting banks to lend more rather than keeping their excess liquidity with the RBI.

While cutting benchmark rates, the RBI has **continued with its accommodative stance**.

EMIs deferred:

- RBI has also allowed banks to defer **payment of Equated Monthly Installments (EMIs)** on home, car, personal loans as well as credit card dues for three months till May 31, 2020.
 - Since non-payment will not lead to non-performing asset classification by banks, there will be no impact on credit score of the borrowers.

The interest payments have been deferred and not waived.

The three-month moratorium on all term loan installments, along with deferment of **interest on working capital, will help mitigate debt servicing burden due to COVID-19 disruption**, and prevent transmission of financial stress to various sectors of the economy. This move will protect borrowers financially amid the nationwide lockdown.

Marginal Standing Facility:

- RBI has increased **the cap for liquidity available under the marginal standing facility**.
- Under the marginal standing facility (MSF), banks can borrow overnight at their discretion by dipping up to 2% into the Statutory Liquidity Ratio (SLR). The RBI has decided to increase the limit of 2% to 3% till June 2020.

- Marginal standing facility (MSF) is a window for banks to borrow from the Reserve Bank of India in an emergency situation when inter-bank liquidity dries up completely.
- Banks borrow from the central bank by pledging government securities at a rate higher than the repo rate under liquidity adjustment facility. **The MSF rate is pegged 100 basis points or a percentage point above the repo rate.**

Long-term repo operations:

- Observing that large **sell-offs in the domestic equity, bond and forex markets** has intensified redemption pressures, the central bank has decided to infuse money into the economy through **Targeted Long-Term Repo Operations (TLTRO)**.
- The RBI will auction long-term repo of **around 1 lakh crore rupees**.
- Liquidity availed under the scheme by banks has to be deployed in investment grade corporate bonds, commercial paper and non-convertible debentures.
- The three-year targeted long term repo operations will **decongest credit channels and lower cost of credit**, providing much needed relief to the corporate.

Indian Banks in offshore NDF markets:

- The **ongoing financial market volatilities** triggered by Coronavirus outbreak dragged the **rupee to touch lifetime lows** and also breach the 75-mark against the US dollar. The rupee has come under pressure recently as foreign investors are exiting emerging economies.
- The Reserve Bank of India has allowed Indian banks to participate in the offshore Non-Deliverable Forwards (NDF) rupee derivatives.
- This is a positive step in **broadening market participants and better rate discovery**.
- The move is aimed at **curtailing the volatility in the domestic currency** due to the Covid-19 pandemic.

Conclusion:

- The above actions will see an **infusion of 3.74 lakh crore rupees into the banking system**. These measures will provide adequate liquidity in the system, bring down the cost of capital and mitigate the impact of pandemic COVID-19.
- The **Indian financial markets** which are facing heightened volatility due to the spread of the COVID-19 pandemic **could stabilize** with the Reserve Bank of India unveiling measures.

- Given the **importance of monetary policy transmission** to ensure the effectiveness of RBI actions, banks will have to **reduce their lending rates and ramp up credit disbursal**.

7. Dressing a wounded economy

Context

- This article discusses the impact of the coronavirus pandemic on the Indian economy and various actions that have to be taken to combat the virus.
- The economic impact on India can be traced through four channels: external demand; domestic demand; supply disruptions, and financial market disturbances.

Export Sector suffers

- The coronavirus has hit majority of the countries world over. The developed countries are also the sufferers.
- As their economies slow down, demand for imported goods will go down which indeed will impact India's exports.
 - In fact, after six months of negative growth, it was only in January that Indian exports showed positive growth.

The extent of the decline will depend on how severely the other economies are affected. Not only merchandise exports but also service exports will suffer.

Domestic Demand

- The Prime Minister announced the lockdown for a 21-day period. People were requested not to leave their houses unnecessarily. As people are not going out, buying less, shops stock less which is affecting the production as there is less demand.
- As a result, retail units will be the first to be affected and they will in turn transmit this to the production units.
- Supply disruptions can occur because of the inability to import or procure inputs. The break in supply chains can be severe. It is estimated that nearly 60% of our imports is in the category of 'intermediate goods'. Imports from countries which are affected by the virus can be a source of concern. Domestic supply chain can also be affected as the inter-state movement of goods has also slowed down.
- The laying off of non-permanent employees has already started.

Financial market issues

Financial markets are the ones which respond quickly and irrationally to a pandemic such as the coronavirus pandemic. The entire reaction is based on fear.

- The stock market in India has collapsed. The indices are at a three-year low.
- Foreign Portfolio Investors have shown great nervousness and the value of the rupee in terms of the dollar has also fallen.

How does the government deal with this sudden decline in economic activity? The two major tools that are available are monetary policy and fiscal actions.

Monetary policy

- In a situation like this, the RBI can only act to stimulate demand through a **greater push of liquidity and credit**. The policy rate has already been brought down by 135 basis points over the last several months. There is obviously scope for further reduction.
- But our own history as well as the experience of other countries clearly show that **beyond a point, a reduction in interest rates does not work**. It is the environment of the overall economy that counts.
 - Credit may be available. But there may not be takers.

Any substantial reduction of policy rate can also affect savers. Interest is a double-edged sword.

What should the RBI and Banks do?

- A certain amount of regulatory leniency is required to make the banks lend.
- **Commercial banks** on their own will have to think in terms of modifying norms they use for inventory holding by production units.
 - **Repayments to banks can be delayed** and the authorities must be willing to relax the rules.

Any relaxation of rules regarding the recognition of non-performing assets has to be across the entire business sector.

The authorities must be ready to tighten the rules as soon as the situation improves.

- This is a temporary relaxation and must be seen as such by banks and borrowers.

Fiscal Actions

- The **fiscal position** of the government of India is already grim. It may increase further.
 - **Revenues** are likely to go down further because of the virus related slowdown in economic activity.
 - In this context, the ability to undertake big ticket expenditures is constrained.

But there are some 'musts'. The virus has to be fought and brought down.

- All expenditures to test (there is some concern that the extent of testing that we are doing now is low) and to take care of patients must be incurred. Now that private hospitals are allowed to test, **the cost of the people going to private hospitals must also be met by the government.**
 - The poor may avoid going to hospitals if they have to face financial burden. The government should take complete responsibility.

It is mentioned that a test costs ₹4,500. The total cost can be substantial if the numbers to be tested run in the thousands and more.

- Therefore, the first priority is to **mobilise adequate resources** to meet all health related expenditures which includes the supply of accessories such as masks, sanitisers and materials for tests. The challenge is not only fiscal but also organisational.

The job sector

Serious concerns have been expressed about people who have been thrown out of employment. These are mostly **daily-wage earners and non-permanent/temporary employees**. In fact, some of the migrant labourers have gone back to home States.

- We must appeal to the business units to keep even non-permanent workers on their rolls and provide them with a **minimal income**.
- Some **relief can be thought of by the government for such business units** even though this can be misused.
- However, in general, in the case of sectors such as **hospitality and travel**, the government can extend relief through deferment of payments of dues to the government.

Conclusion

- The fiscal deficit is bound to go up substantially. Inflation can flare up. The government needs to be mindful of this. The **government must not stint and go out in a massive way to combat the virus**. This is the government's first priority.
- Therefore, the government must focus on continued surveillance, prompt diagnosis and adopt robust treatment modalities to reduce morbidity and mortality.

8. ICMR Recommends Use of Hydroxy-Chloroquine

Why in News

The National Task force for **COVID-19**, constituted by the Indian Council of Medical Research (ICMR), has suggested the **use of hydroxy-chloroquine** to contain the spread of SARS-CoV-2 (Coronavirus) for restricted populations.

Key Points

- **Hydroxy-chloroquine** :
- Hydroxy-chloroquine (not to be confused with anti-malaria drug chloroquine) is an **oral drug** used in the treatment of **autoimmune diseases such as rheumatoid arthritis**.
 - Autoimmune diseases are in which the body's immune system attacks healthy cells.
 - Rheumatoid arthritis is a chronic inflammatory disorder affecting many joints, including those in the hands and feet.
- **Hydroxy-chloroquine against COVID-19:**
 - The drug shows antiviral activity **in vitro** against coronaviruses, and specifically, SARS-CoV-2 [the virus that causes COVID-19].
 - Further, the study suggests that prophylaxis (treatment given to prevent disease) with hydroxy-chloroquine at approved doses could prevent SARS-CoV-2 infection and may help to improve viral shedding.
 - Clinical trials are under way in China to know whether the drug can be used for treatment.
- **ICMR Recommended Use of Hydroxy-chloroquine:**
 - The restricted population for usage of hydroxy-chloroquine include, namely, '**Asymptomatic (showing no symptoms) Healthcare Workers**' and '**Asymptomatic household contacts**' of laboratory-confirmed cases.
 - The above mentioned population have been advised to use the hydroxy-chloroquine to **contain further spread of the pandemic**.
 - However, the drug is **not recommended** as a preventive healthcare in children under **15 years of age**.
 - ICMR also advised that placing healthcare workers under hydroxy-chloroquine treatment **should not instill a sense of false security** and they **need to follow all prescribed public health measures** such as frequent washing of hands, respiratory etiquettes, keeping a distance of minimum one metre and use of personal protective equipment, etc.

- It has been also advised that the drug **should only be given on the prescription** of a registered medical practitioner.

Combination of Hydroxy-chloroquine with Other Drugs

- **Hydroxy-chloroquine and Chloroquine:**

- A study suggests that **both hydroxy-chloroquine and chloroquine** have in vitro activity against SARS-CoV, SARS-CoV-2, and other coronaviruses, with hydroxy-chloroquine having higher potency against SARS-CoV-2.

- **Hydroxy-chloroquine with Azithromycin:**

- The combination is hydroxy-chloroquine with azithromycin, a commonly used antibiotic.
- The combination is expected to be efficient for virus elimination.

NOTE:

- **In vitro studies** are performed with microorganisms, cells, or biological molecules outside their normal biological context (such as in a test tube).
- In contrast to in vitro experiments, **in vivo studies** are those conducted in living organisms, including humans, and whole plants.

Indian Council of Medical Research

- Indian Council of Medical Research (ICMR) is the apex body in India for the formulation, coordination and promotion of biomedical research.
- Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- It is funded by the Government of India through the Department of Health Research, **Ministry of Health & Family Welfare**.

9. How policy can bridge the gap

Context

India must use the windfall from oil to provide assistance to the most vulnerable to mitigate the impact due to COVID-19 outbreak.

Estimates of impact

- **Impact on major economies:** Minus 40 per cent, -30 per cent, -22 per cent, and -14 per cent. These are the estimated impacts (at an annualised rate) on the quarterly growth rates of **China, the UK, Eurozone, and the US** because of the Covid-19 virus.
- Even excluding China and those that are closely tied to its supply chain – Korea and Taiwan – **emerging markets (EM) are expected to go into recession** in the first half of 2020, with the second quarter taking the biggest hit at over an 8 per cent quarterly decline.
- **Impact on India:** India will not be spared this growth shock. In fact, the economic impact could be deeper and longer in emerging markets where the capacity of public health systems is limited at the best of times.

Prospects of recovery

- **Sudden stop to economic activity:** We also know from the experiences of the countries already infected that the way to control the spread of the virus is through aggressive containment and social distancing that inevitably brings economic activity to a sudden stop.
- There doesn't seem to be a middle path. We also know that unlike natural catastrophes like earthquakes, **capital stock is not destroyed by the virus.**
- **Sharp recovery and conditions:** Once the containment period is over and social interaction normalises, there is every reason to believe that activity can recover very sharply.
- Unless the **containment period is long** because of capacity constraints in the healthcare system which could turn supply chain disruptions into a long-term problem, or the credit stress created by the lack of earning by households and firms during the **sudden stop stymies the recovery.**

India needs to brace itself

- Unfortunately, India, where the virus still appears to be in the early stage, **needs to brace for such a sudden stop.**
- The lockdown could be for an **extended period** given the already stretched public health system.
- **Impact on urban economy:** The swathe of the economy that depends on **social interaction** – retail sales, entertainment, restaurants, and importantly construction and manufacturing – is very large.
- Even if one believes that rural areas with relatively low population densities will not be affected much, **the impact on urban economic activity could be very large.**

Role of economic policy

- **What is the role of economic policy in such circumstances?** It needs to “bridge the gap” between the brutal downturn and the eventual recovery.

- While public health policies force a sudden stop in the economy to save lives, economic policies need to ensure that the impact from the **shutdown is cushioned**, incomes of households and firms supported, credit stress is contained, and the recovery is not hamstrung by policy headwinds.
- This requires **policy support to be operated on various fronts**.
- **Role of the Central bank:** Central banks not only need to cut rates but also need to provide adequate liquidity and extend regulatory forbearance to prevent credit stress and non-performing loans from clogging up the already strained financial system when the economy starts to recover.
- **Role of fiscal policy:** The role of fiscal policy is even larger, from direct and indirect tax cuts or postponement to targeted credit support for sectors that are likely to be most affected such as airlines and retail trade.
- **Support to the vulnerable:** The key is income support to the most vulnerable: From daily wage earners to SMEs (small and medium enterprises).
- **Using JAM trinity for cash transfer:** It is here that the government's efforts over the last five years make India one of the **best-placed economies to deliver such cash transfers**.
- Since 2015, substantial time, effort, and resources have been expended to establish Jan Dhan (bank accounts), Aadhaar and mobile banking (JAM), and Mudra, the programme that dispenses loans to SMEs.
- **The objective of JAM and Mudra is to use Aadhaar as a way of accurately identifying beneficiaries** and use mobile banking to digitally and seamlessly transfer cash/subsidies directly to households' bank accounts and provide loans to SMEs without any leakages.
- According to **government reports, the total number of Jan Dhan accounts stand at around 380 million and 59 million MUDRA loans were sanctioned last year**.
- For a country with a population of 1.3 billion and about **63 million SMEs**, even if there are duplicate accounts, JAM and Mudra should be able to cover almost all households and SMEs.
- With Aadhaar accurately targeting beneficiaries, leakages should be minimised. If there ever was a time that India needed JAM and Mudra it is now.

Issue of fiscal space and solution

- Some will argue that India **doesn't have the fiscal space. But it does**.
- **Use oil windfall:** In the last month or so, the crude oil price has dropped from around \$60/bbl to around \$30 and is likely to stay at this level given the breakdown in agreement among oil-producing countries and the massive collapse in global demand.
- If the government simply taxed the oil windfall by raising excise duties, as it did during the 2014-15 oil price collapse, **it could potentially raise almost 1 per cent of GDP** or a staggering Rs 2.25 trillion.
- If 50 million households have to be provided assistance because of the shutdown, it comes to about **Rs 14,000 per month for three months** or about **Rs 24,000 a month to half of the 63 million SMEs**.

- And this without even having to increase this year's budgeted deficit.

Conclusion

The government might have other uses for the oil windfall. But if India is forced into lockdown, the economic costs will be very large and the recovery will crucially depend on whether the pilot-light of the economy is kept lit through this period. This critically requires income transfers to vulnerable households and SMEs. India cannot complain that it does not have the fiscal space or the infrastructure to provide it.

10. India-France Joint Patrolling

Why in News

For the first time, India and France conducted joint patrols from the Reunion Island.

- The patrol was conducted in the month of February by a **P-8I aircraft** with French Navy personnel onboard.

P-8I aircraft

- **Boeing's P-8A Poseidon** is designed for long-range Anti-Submarine warfare (ASW), Anti-Surface Warfare (ASuW), and intelligence, surveillance and reconnaissance (ISR) missions.
- The **P-8s Indian variant** is referred to as **P-8I**.
- Of a total of 12 ordered aircrafts, India has received eight, making the Indian Navy's P-8 fleet the second largest in the world. Another four aircrafts are on-schedule to be delivered in 2020.
- The P-8I is not just responsible for coastal patrolling but is also used for other critical missions like search-and-rescue, anti-piracy, and supporting operations of other arms of the military.

Key Points

- Currently, under the '**Neighbourhood First**' policy and broader maritime cooperation, the Indian Navy undertakes joint **Exclusive Economic Zone (EEZ)** surveillance with Maldives, Seychelles and Mauritius and **Coordinated Patrols (CORPATs)** with Bangladesh, Myanmar, Thailand and Indonesia.
- The objectives of the CORPATs are to ensure effective implementation of **United Nations Conventions on Laws of the Sea (UNCLOS)**.
 - UNCLOS specifies regulations regarding protection and conservation of natural resources, conservation of marine environment, prevention and suppression of

illegal, unregulated fishing activity, drug trafficking, piracy, exchange of information in prevention of smuggling, illegal immigration and conduct of search and rescue operations at sea.

- The **joint patrolling with France** shows India's intent to engage with friendly foreign partners in expanding its footprint in the Indian Ocean, focusing on the stretch between the East African coastline and the Malacca straits.
- India has recently become an **observer to the Indian Ocean Commission**. It consists of Reunion as one of its members.
- India has **so far carried out CORPATs only with maritime neighbours** and had **rejected a similar offer by the US in 2016**.



India-France Defence Relations

- France is the first country to deploy a Liaison Officer at the **Indian Navy's Information Fusion Centre (IFC-IOR)**, as part of efforts to improve Maritime Domain Awareness (MDA).
- France has steadily emerged as a major strategic partner for India with big ticket defence deals and increased military to military engagement.
- The Indian navy is currently inducting **French Scorpene conventional submarines**, being built in India under technology transfer, and the Indian Air Force will soon get the first batch of its **36 Rafale fighter jets**.
- India is working with France to develop strategic and economic partnership involving Madagascar, Reunion Islands-Comoros so as to balance the growing influence of China in that part of the Indian Ocean Region.
- **Defence Exercises between India and France:**
 - **Varuna - Naval exercise**
 - **Garuda - Air exercise**

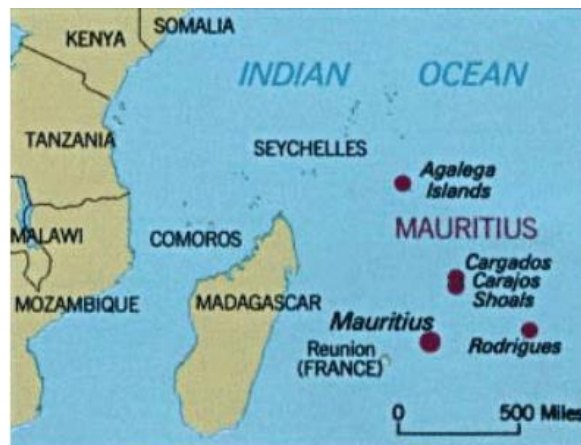
- **Shakti - Army exercise**

Note:

- **Gagan Shakti** is conducted by the **Indian Air Force** to showcase its air dominance over the entire extended area of the Indian Ocean Region. It includes all terrain operations - desert, high altitude, maritime scenarios and special operations - in real time with specific focus on key areas like aerial combat, air to surface combat, paratrooper assault and medical evacuation.
- **Garuda Shakti** is the **joint military exercise** between **India and Indonesia**.
- **Mitra Shakti** is the joint military exercise between **India and Sri Lanka**.

Reunion Island

- Réunion is a **French overseas department** and overseas region in the western Indian Ocean. It is located about 420 miles (680 km) east of Madagascar and 110 miles (180 km) southwest of Mauritius.



11. Can China's model work for the West?

Context:

- China's efforts to contain the COVID-19 outbreak.

Details:

China's progress in the fight against COVID-19:

- **China has reported only one new local infection over the past four days** which marks a remarkable success in the country's effort to contain the initial outbreak in the city of Wuhan.

- World Health Organization chief has stated that **China's success in the battle with COVID-19 provides hope for the rest of the world.**

China's efforts:

Isolation efforts:

- In January 2020, China shut down Wuhan and placed its 11 million residents in effective quarantine and similar moves were replicated in the rest of Hubei province, putting **50 million people in mass isolation.**
- Two weeks after the closure of Wuhan, which is exactly the incubation period, **the number of infections started to drop.**

Strict social distancing regulations:

- Hundreds of millions of Chinese live in closed residential complexes where **neighbourhood committees policed people's movement, ensuring strict compliance of social distancing regulations.** Isolation compliance could be **closely monitored** in such cases.
- In cities, it quickly became necessary to wear a mask as apartment blocks, businesses and even parks barred entry without one.
- The social distancing regulations, seems to have contributed to the decreasing number of new cases in China.

Use of technology:

- Many localities in China require citizens to show a **QR code on their phone** that rates them as "green", "yellow" or "red", based on **tracking of whether they visited a high-risk zone.**
- This helped in **effective tracking of the movement of people** and identifying at risk individuals and populations.

Public health over civil liberties:

- Given the nature of Chinese state, the state authorities were able to **enforce stricter regulations without concerns over infringement of civil or privacy rights.**

Mobilization of state resources:

- During the crisis, according to official news agencies, China produced up to 1.6 million N95 respirator masks per day, given **its manufacturing prowess.**
- The installation of **temperature checkpoints** at public buildings, shops and other public places helped boost detection rates.
- China was able to **set up new hospitals in very short periods of time.**

Challenges:

- China, being a **centrally-controlled, top-down, one-party authoritarian state** that allows no dissent and can **mobilise vast resources** on a single issue, is different from the other countries of the world.
- Given the particular features of Chinese state there are doubts whether China's strategy can be followed successfully by other countries, particularly Western liberal democracies in the fight against the COVID-19 pandemic.

12. Picking up the quantum technology baton

Context

- The government, in its Budget 2020, had announced a National Mission on Quantum Technologies & Applications (NM-QTA) with a total budget outlay of Rs 8000 Crore for a period of five years to be implemented by the Department of Science & Technology (DST).

National Mission on Quantum Technologies and Applications (NM-QTA)

- The Mission will be able to address the ever increasing technological requirements of the society, and take into account the international technology trends and road maps of leading countries for the development of next generation technologies.
- The areas of focus for the NM-QTA Mission will be in fundamental science, translation, technology development and towards addressing issues concerning national priorities.
- The mission can help prepare next generation skilled manpower, boost translational research and also encourage entrepreneurship and start-up ecosystem development.

Quantum mechanics

Quantum mechanics was developed in the early 20th century.

- It is a branch of science that deals with atomic and molecular properties and behaviour on a microscopic scale.
 - It determines the properties of physical systems such as atoms, molecules, condensed phase materials, light, etc.

For over a century, it has provided the foundations of our understanding of the physical world, including the interaction of light and matter, and led to ubiquitous inventions such as lasers and semiconductor transistors.

What is Quantum Technology?

- It is based on the principles of quantum theory, which explains the nature of energy and matter on the atomic and subatomic level.

- It concerns the control and manipulation of quantum systems, with the goal of achieving information processing beyond the limits of the classical world.
- Quantum technology exploits some of the properties of quantum mechanics – such as quantum entanglement, superposition and tunnelling – in developing practical applications like computing and cryptography.
 - Quantum principles will be used for engineering solutions to extremely complex problems in computing, communications, sensing, chemistry, cryptography, imaging and mechanics.

Applications

- Their applications include those in aero-space engineering, numerical weather prediction, simulations, securing the communications & financial transactions, cyber security, advanced manufacturing, health, agriculture, education and other important sectors with focus on creation of high skilled jobs, human resources development, start-ups & entrepreneurship leading to technology lead economic growth.
- The range of quantum technologies is expected to be one of the major technology disruptions that will change the entire paradigm of computation, communication and encryption.

Example:

- China recently demonstrated secure quantum communication links between terrestrial stations and satellites.
- Computer Scientists are working towards deploying schemes for post-quantum cryptography – clever schemes by which existing computers can keep communication secure even against quantum computers of the future.

Significance

- With a solid research base and workforce founded on significant and reliable government support, it can lead to the creation of innovative applications by industries, thereby stimulating economic growth and job creation, which will feed back into a growing quantum-based economy.
- The government's financial and organisational support will also ensure that both public and private sectors will benefit.
- It will establish standards to be applied to all research and help stimulate a pipeline to support research and applications well into the future.

Challenges

- On the experimental front, the challenge lies in harnessing the weird and wonderful properties of quantum superposition and entanglement in a highly controlled manner by building a system composed of carefully designed building blocks called quantum bits or qubits.

- These qubits tend to be very fragile and lose their “quantumness” if not controlled properly, and a careful choice of materials, design and engineering is required to get them to work.

On the theoretical front lies the challenge of creating the algorithms and applications for quantum computers.

- These projects will also place new demands on classical control hardware as well as software platforms.

Globally, research in this area is about two decades old, but in India, serious experimental work has been under way for only about five years, and in a handful of locations. What are the constraints on Indian progress in this field?

- So far, we have been plagued by a lack of sufficient resources, high quality manpower, timeliness and flexibility.

Way forward

- In a fast-moving field like this, timeliness is everything – delayed funding by even one year is an enormous hit.
 - For example, unrestricted funds that can be used to attract and retain high quality manpower and to build international networks – all at short notice – can and will make an enormous difference to the success of this enterprise.

Further, connections with Indian industry from the start would also help quantum technologies become commercialised successfully, allowing Indian industry to benefit from the quantum revolution.

We must encourage industrial houses and strategic philanthropists to take an interest and reach out to Indian institutions with an existing presence in this emerging field.

13. When will a COVID-19 vaccine be ready? (GS-3)

Immune System

The immune system is made up of a specialized network of organs, cells, and tissues that all work together to protect us against disease. When a disease-causing germ (for example, a virus or bacteria) enters the body, the immune system:

- Recognizes the germ as being foreign (not belonging in the body).
- Responds by making special proteins (called antibodies) that help destroy the germ.
- Remembers the germ that made the person sick and to destroy it in the future.

What are vaccines?

Vaccines are one of the most effective tools to prevent diseases.

- A vaccine is a substance that **resembles the disease-causing agent** (also called pathogen) but does not cause the disease.
- It stimulates immune system **to recognize and kill the pathogen**, and creates a memory for the future.
 - This is what makes vaccines such powerful medicine. Unlike most medicines, which treat or cure diseases, vaccines prevent them.
- Vaccines are available to **protect us against many life-threatening diseases** such as polio, influenza, meningitis, typhoid, tetanus, diphtheria, and certain types of cancers.
- Vaccines have also been responsible for eradication (or near eradication) of deadly diseases such as smallpox and polio.

How are Vaccines Made?

There are multiple ways to make vaccines.

1. **Live, Attenuated Vaccines:** These vaccines contain a **version of the living virus or bacteria** that has been **weakened**.
 - These wild virus or bacteria are weakened by repeated culturing in cells in which they do not reproduce very well. As they evolve to adapt to the new environment, they become weaker with respect to their natural host, human beings.
 - Examples include measles, mumps, and rubella vaccine (MMR) and varicella (chickenpox) vaccine.
2. **Inactivated Vaccine (Killed Vaccine):** It is a vaccine consisting of virus particles, bacteria, or other pathogens that have been grown in culture. They have been killed through physical or chemical processes. These killed organisms cannot cause disease.
 - Pathogens for inactivated vaccines are grown under controlled conditions and are killed as a means to reduce infectivity (virulence) and thus prevent infection.
 - Inactivated vaccines are not active and cannot replicate, so there is always a need for multiple doses. In general, the immune response does not occur after the first dose, but usually after the second or third dose.

- Examples include polio vaccine, influenza vaccine.

Feature	Inactivated vaccine	Live attenuated vaccine
Stability	high	low
Shelf life	long	short
Reversion of virulence	not	possible
Safety	good	poor
Dose	high	low
No. of doses	multiple	single
Efficacy	poor effects; last a short time	good effects; last a long time
Need for adjuvant	yes	no
Duration of immunity	less	many years

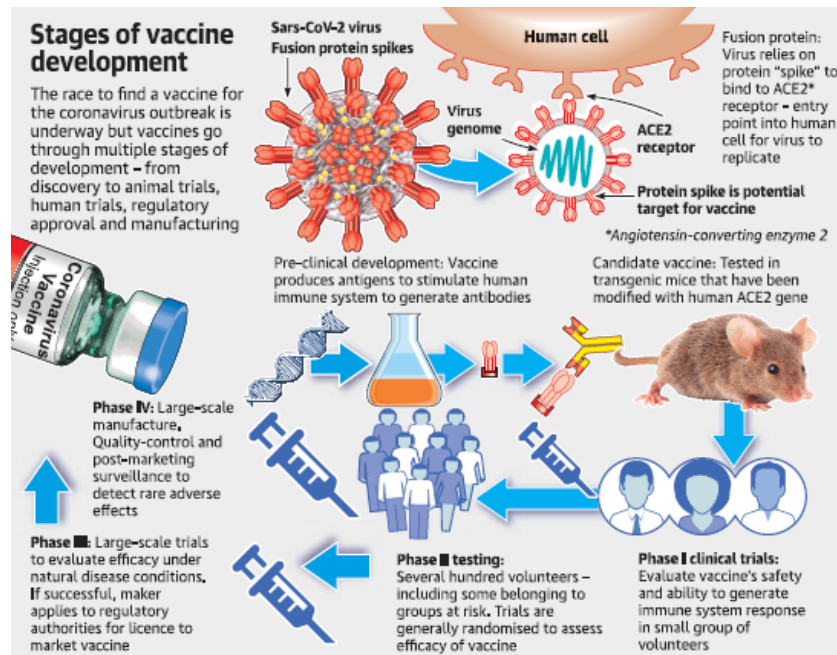
Is a virus needed to develop a vaccine against it?

With modern molecular tools and technologies, isolating a virus is not required to make a vaccine against it.

- The **genetic sequence can be obtained directly from infected patients** and this can be converted into proteins using various platform technologies.
- This makes it possible to have vaccines ready for hundreds of pathogens that have not yet infected humans, but have the potential to do so in future.

Stages of Vaccine development

- It can take years to develop vaccines – first in laboratories to show proof-of-concept, then developing a manufacturing process to make stable and a highly pure product to be tested in animals and humans, and finally for the market.



What vaccines are being developed against COVID-19?

According to the World Health Organization, over 40 different candidate vaccines for COVID-19 are in development.

- These include an **Inactivated Vaccine** being developed in China (Sinovac) using purified COVID-19 virus killed with formaldehyde (a chemical).
- A **Live Attenuated Vaccine** being developed by Codagenix, a U.S.-based company in partnership with the Serum Institute of India (Pune), uses a genetically engineered COVID-19 virus that replicates very poorly.

One vaccine against COVID-19 is already in trials. What is it about?

- An experimental COVID-19 vaccine called mRNA-1273 was developed by Moderna, a biotechnology company

What is the mRNA vaccine?

- The genetic blueprint (or code) in living organisms is stored in a double-stranded molecule called DNA (deoxyribonucleic acid), which makes proteins that are responsible for nearly every function in the human body.

- The conversion of DNA code into proteins requires a **single-stranded molecule** called the mRNA (messenger ribonucleic acid).
- In an analogy with computers, one may think of the DNA as the hardware, the mRNA as the software and proteins as the applications.

The **mRNA-1273** is a piece of RNA that carries the code to make the COVID-19 virus Spike protein when introduced into cells.

- This protein present on the virus surface is critical for its entry into cells.
- Immunity (antibodies) to the Spike protein can block virus entry and its multiplication, and thus ameliorate the disease.
- While simple to engineer, mRNA can degrade easily. Therefore, it has to be protected with a coating that can also target it to the cells of choice when injected into the body.

How much does it cost to develop it? Who funds it?

It takes millions of dollars to develop and test a vaccine. Either for-profit companies or philanthropic foundations and countries cover the costs.

- The mRNA-1273 vaccine is supported by the Coalition for Epidemic Preparedness Innovations (CEPI), a not-for-profit grouping of foundations and countries.
- India is a member of CEPI. Besides mRNA-1273, CEPI has funded the development of at least five other COVID-19 vaccines, with an overall commitment of \$23.7 million.

14. Why has the rupee fallen against the dollar?

Context

- The Indian rupee fell sharply against the U.S. dollar to a record closing low of 75.20 as deepening concerns about the economic fallout of the COVID-19 pandemic sent global investors hurrying to dump most assets, especially emerging market holdings, and opt for cash and the relative safety of the greenback.
- The rupee has now depreciated by more than 5.3% in 2020, with the bulk of its losses, a 4.1% slide, having occurred in March.

Why is the Indian currency weakening?

- As it happened in 2008 during the Global Financial Crisis (GFC), the **widespread economic uncertainty triggered by the latest COVID-19 outbreak** has forced most investors and businesses across the world to seek to conserve that most crucial asset during times of crisis: cash and more specifically the U.S. dollar.
 - In 2008, the dollar strengthened about 22% against the Euro as enterprises, especially in the world's largest economy, hoarded the U.S. currency.
- Since the start of March 2020, **overseas investors have dumped Indian equities and debt** on a scale not seen since the taper tantrum of 2013.
 - As on March 20, foreign institutional investors (FIIs) had sold a net ₹95,485 crore, or more than \$12 billion, of shares and bonds.
 - This outflow has coincided with the sharp fall in the equity market's key gauge, the 30-stock S&P BSE Sensex, which has slumped 22% so far in March.
- The depreciation is even more worrisome as the month of March is typically good for the Indian rupee as remittances, from both individuals and companies tend to buoy the exchange rate.

What else is contributing to the fall?

- The rupee's decline in March has been part of a broad trend as **most currencies across the globe have weakened against their U.S. counterpart**. The dollar index, which gauges the greenback's strength against a basket of six currencies, has gained almost 4% so far this month.
 - The six currencies are the euro, Swiss Franc, Japanese Yen, Canadian dollar, British pound, and Swedish Krona.
- The risk aversion as a result of the pandemic triggered by the global outbreak of COVID-19 has been so intense that it has not spared most perceived safe havens including U.S. Treasuries (government bonds) and significantly even **gold**.
 - The yellow metal too has been sold by investors looking to hold the most liquid and most fungible of all assets – the U.S. dollar.
- The U.S. economy may face recession and possibly head for a massive unemployment featuring depression – if more States join **California** in enforcing severe movement curbs such as statewide “stay-in-place” order to contain the spread of the viral pandemic – **the dollar too could become a risky holding**.

Where does the rupee go from here?

- There are signs of global economy heading into a recession. This may further haunt the rupee.
- Add to it the fact that India's own domestic economy has been **struggling to reverse an extended slowdown – with both private consumption and**

investment by businesses substantially stuck – and it is hard to see the rupee improving appreciably in the short-term.

- The **RBI is also likely to cut interest rates in the very near future to support the sagging economy at this juncture**, a move that could potentially again add to the downward pressure on the rupee.

Balancing factors

- **India's foreign exchange reserves** are still at a fairly robust level and as on March 13 amounted to a total of almost \$482 billion.
 - The Reserve Bank of India (RBI) has stepped in every now and then, both to smooth volatility in the foreign exchange market and to ensure that a sudden shortage of dollar supply does not exacerbate the weakening trend in the rupee.
- **Oil prices**, which have fallen due to concerns of a slump in global economic activity, may act as a mild buffer for the rupee.
 - Since India is a large oil-importing nation, lower prices mean a narrower current account deficit for the country.
 - With neither Saudi Arabia nor Russia appearing to be in any hurry to de-escalate their price war, and energy demand likely to remain depressed in the foreseeable future on account of the global economic downturn, oil may remain one source of respite for the rupee.

Conclusion

- The outlook on the rupee will be precarious for the next few days. If there's meaningful coordinated action from global central banks and governments, some calm could return to the markets.

15. Blunting the economic impact of a pandemic

Context

- In his address to the nation, Prime Minister said that a task force would be constituted which will be headed by Finance Minister to assess the economic impact of the pandemic and suggest reassuring measures.

Some suggestions for the task force to discuss

1. Cash transfers

- Those working in the informal sector like the cab drivers, restaurant waiters, mall workers, domestic help, itinerant retailers and other casual job workers are either already without jobs and incomes or will soon find themselves in that position.

- It will be good if the **Govt can think of considering cash transfers of a fixed amount** to these vulnerable sections.
 - The **Pradhan Mantri Jan Dhan Yojana** can be leveraged for this purpose.
 - **Public Distribution System** prevalent in most States can also be utilised through which the beneficiaries can be identified for a cash handout.
 - There are a total of 23.53 crore ration cards in the country according to the **National Food Security Portal**. Assuming that all of these are below poverty line cards, a transfer of ₹1,000, which is the least that should be considered, will cost the Centre over ₹23,500 crore.

1(a). Global Picture

- **Hong Kong** announced a cash handout of HK\$10,000 to every permanent resident as a supportive measure.
- The **United States** is also weighing the option of a cash handout totalling \$250 billion to its citizens.

2. Loan guarantee

- **Service industries** such as airlines, hotels and restaurants and tourism have taken a hit, and in course of time
- **Manufacturing Sector** may also feel the pinch in the near future
 - While the cash registers have stopped ringing, these businesses have to deal with expenses that cannot be put off such as salaries, lease instalments, loan repayments and so on.

Banks are obviously not going to offer any accommodation to these businesses given their own issues with sick loans.

This is where the **government can consider what most of the affected nations in the West have done – offer loan guarantees to affected businesses.**

2(a). Global Picture

- **Britain** has pledged £330 billion of government-backed loans and guarantees
- **France and Spain** have announced €300 billion and €100 billion aid, respectively.
- The priority is to keep businesses liquid and that is the reason why these countries have pledged such large amounts as guarantees.

3. Tax Relief

- If this shutdown prolongs beyond the next couple of weeks, the government may have to look at offering temporary tax relief to businesses.

- An **Equated Monthly Instalment (EMI) holiday** can be a huge blessing for individuals and businesses when faced with a job loss, salary cut or loss of revenue.
 - A three-month mortgage holiday should be coaxed out of lenders by the government to begin with for businesses in obvious trouble and to those employed by such businesses.

4. Other measures that can be taken by the Govt

- There are other helpful actions that the government can take such as promptly discharging its bills, refunding taxes without delay, promptly carrying out direct benefit transfers already budgeted for, and, if necessary, even permitting affected businesses to temporarily delay payment of statutory dues such as provident fund and ESI.
- A well-structured, **tax-efficient bond** issue can be an option to tap into the large pool of domestic savings.
- The large Indian diaspora can also be tapped into.
 - Post-Pokhran in 1998, The State Bank of India raised about \$4 billion from non-resident Indians against all odds to help India tide over the immediate impact of sanctions.

How to finance?

- The **resources of the Centre and the States have to be pooled** to develop a national response to this unfolding economic tragedy.
 - Kerala, for example, has already announced a ₹20,000 crore package and other States may follow suit. It may be a good idea for the Centre to leverage State resources along with its own.

Second, the **government will have to engage with the private sector while devising assistance measures.**

- There is a lot of expertise and sharp financial minds available in the private sector and these should be tapped into for innovative ideas.

Conclusion

- Managing a new virus outbreak is never an easy task for any state. As the number of affected cases increase and we move towards a lockdown situation, businesses and workers will be severely impacted.
- So the Govt should work on a policy package which is aimed at giving relief to businesses and workers, and informal sector employees.

16. A different fight-back

Context

Coronavirus crisis is an opportunity for India to build on domestic technological capabilities in artificial intelligence, big data analytics, life sciences and health technology in the private sector.

How a small tech company flagged Covid-19 outbreak?

- **What does it do?** A small tech company in Canada – BlueDot – was among first outside China to spot a new epidemic spreading out from Wuhan last December.
 - BlueDot, founded in Canada by a medical scientist of South Asian origin, Kamran Khan, **tracks the origin and transmission of infectious diseases around the world.**
- **How could they detect the outbreak in China?** BlueDot did this by sifting through massive volumes of news reports and blogs by individuals, including health professionals flowing out of China.
 - **Data analytics and medical expertise combined:** BlueDot combines “public health and medical expertise with advanced data analytics to build solutions that track, contextualise, and anticipate infectious disease risks”.
 - **Use of AI:** BlueDot is one of the many technology firms leveraging artificial intelligence for business and policy purposes.
 - Many governments are reaching out to tech companies to cope with the corona crisis.
 - The state government of California has just hired BlueDot to help it deal with the challenge.

The growing role of technology in dealing with coronavirus

- Across the world, policymakers see a growing role for technology **in identification, tracking, and treating the coronavirus.**
- **Alibaba and Tencent’s help in China:** In China, the Communist Party roped in big tech companies like **Alibaba and Tencent in the battle against the virus.**
- **Silicon valley’s help in the US:** In the US, President Donald Trump has set aside his well-known distaste for Democrat-leaning Silicon Valley to tackle what he now calls a war-like emergency.
- India will need all the science and technology it can get hold of in overcoming the crisis that is bound to escalate by the day.
- **An opportunity to do good:** For the small tech startups in related areas, this is a moment to shine. For the large tech companies, this is a huge opportunity to deploy their immense capabilities to resolve the specific problems posed by the spread of the coronavirus.

- In rising to the occasion, they could fend off a lot of the recent negative criticism of their business practices and demonstrate that their commitment to **“doing good” is not just empty rhetoric.**
- **A good business proposition:** “Doing good” is also a sensible business proposition at this time.
 - As governments desperately seek solutions to the crisis, the tech startups and established companies **leverage the moment to scale up many technologies, develop new uses and markets.**

How countries used technology to deal with the outbreak

- **How China used technology?** In China, as the government moved decisively after the delayed initial response, it turned to-
 - the well-established mass surveillance system based on **facial recognition technologies,**
 - **sensing technologies** to identify those with fever in public places and
 - **data from mobile phone** companies to trace the people who might be infected, and limit the spread of the disease.
- **China also developed a Health Code** that uses data analytics to-
 - identify and assess the risk of every individual in a targeted zone based on travel history and time spent in infected places.
 - The individuals are assigned a colour code (red, yellow, or green) which they can access via popular apps to know if they ought to be quarantined or allowed in public.
- **How Korea used technology?** Many Asian democracies like South Korea have also turned to **AI tools** to contain the spread of the disease.
- **How the US used technology?** As it copes with the rapid spread of the coronavirus, the US had no option but to use surveillance to contain it.
 - **Partners in dealing with outbreak:** Unsurprisingly, the big tech companies in the US, based on collecting and monetising massive amounts of data from individuals, have inevitably become partners for Washington.
 - But the relationship between the government, corporations and individual citizens in the US is governed by a welter of laws.
 - There is mounting pressure now to tweak these laws to manage the corona crisis.
 - The US is also liberalising the regulations on the access to, and use of, patients’ health records.

Growing collaboration between science and the state

- **The race between China and the US:** Overarching these arguments is a race between the US and China to find new vaccines for the coronavirus.
 - And, more broadly, for the mastery of new scientific capabilities – from artificial intelligence to health technologies.

- The competition, in turn, is promoting a more intensive **alliance between science and the state in both nations.**
- **Collaboration could accelerate the technological capabilities:** The collaboration between science and the state during past crises led to a dramatic acceleration of technological capabilities.
 - **World War precedents:** During the Second World War, science and the state got together to move nuclear physics from the lab to the battlefield.
 - **Cold War precedent:** The Cold War between America and Russia promoted the development of space technology, microelectronics, communications and computing.
- **Role of private entities:** What marks out the current technological race between the US and China is the role of private and non-governmental entities.
 - That might well be the missing link in India's effort to beat the coronavirus.

Conclusion

- **Opportunity for India:** The current crisis, however, is also an opportunity for India to build on the existing domestic technological capabilities in the areas of **artificial intelligence, big data analytics, life sciences, health technology in the private sector.**
- **India needs stronger private sector in science:** In India, the state has dominated the development of science and its organisation. That was of great value in the early decades after Independence.
 - Today, what Delhi needs is a stronger private sector in science and greater synergy with it in dealing with challenges like the corona crisis.

17. What are Open Market Operations (OMOs) ?

The Reserve Bank of India (RBI) has decided to infuse ₹10,000 crore liquidity in the banking system by buying government securities through open market operations (OMO).

What are Open Market Operations (OMOs)?

- OMOs are conducted by the RBI by way of sale and purchase of G-Secs to and from the market with an objective to adjust the rupee liquidity conditions in the market on a durable basis.
- When the RBI feels that there is excess liquidity in the market, it resorts to sale of securities thereby sucking out the rupee liquidity.
- Similarly, when the liquidity conditions are tight, RBI may buy securities from the market, thereby releasing liquidity into the market.

How and in what form can government securities be held?

- The public debt office (PDO) of RBI, acts as the registry and central depository for G-Secs.
- They may be held by investors either as physical stock or in dematerialized (demat/electronic) form.
- It is mandatory for all the RBI regulated entities to hold and transact in G-Secs only in dematerialized subsidiary general ledger or SGL form.

Types:

i) Physical form

- G-Secs may be held in the form of stock certificates. A stock certificate is registered in the books of PDO.
- Ownership in stock certificates cannot be transferred by way of endorsement and delivery.
- They are transferred by executing a transfer form as the ownership and transfer details are recorded in the books of PDO.
- The transfer of a stock certificate is final and valid only when the same is registered in the books of PDO.

ii) Demat form:

- Holding G-Secs in the electronic or scripless form is the safest and the most convenient alternative as it eliminates the problems relating to their custody, viz., loss of security.
- Besides, transfers and servicing of securities in electronic form is hassle free.

How are the G-Secs issued?

- G-Secs are issued through auctions conducted by the RBI.
- Auctions are conducted on the electronic platform called the E-Kuber, the Core Banking Solution (CBS) platform of RBI.
- The RBI, in consultation with the Government of India, issues an indicative half-yearly auction calendar which contains information about the amount of borrowing, the range of the tenor of securities and the period during which auctions will be held.
- The RBI conducts auctions usually every Wednesday to issue T-bills (Treasury Bills) of 91-day, 182-day and 364-day tenors.
- Settlement for the T-bills auctioned is made on T+1 day i.e. on a working day following the trading day. Like T-bills, CMBs are also issued at a discount and redeemed at face value on maturity.

- The tenor, notified amount and date of issue of the CMBs depend upon the temporary cash requirement of the Government. The tenors of CMBs are generally less than 91 days.

What is meant by repurchase (buyback) of G-Secs?

- Repurchase (buyback) of G-Secs is a process whereby the central government and state governments buy back their existing securities, by redeeming them prematurely, from the holders.
- The objectives of buyback can be the reduction of cost (by buying back high coupon securities), reduction in the number of outstanding securities and improving liquidity in the G-Secs market (by buying back illiquid securities) and infusion of liquidity in the system.
- The repurchase is also undertaken for effective cash management by utilising the surplus cash balances.
- The state governments can also buy back their high coupon (high-cost debt) bearing securities to reduce their interest outflows in the times when interest rates show a falling trend.
- States can also retire their high-cost debt pre-maturely in order to fulfil some of the conditions put by international lenders like Asian Development Bank, World Bank etc. to grant them low-cost loans.

18. Let clear principles prevail in the bailout of Yes Bank

Context

Resolving bank failure is tough but following a set of principles could achieve a fair and efficient outcome.

Key issues involved in the resolution

- **Challenge in courts:** Resolving Yes Bank's failure is no easy task. Some bondholders are already challenging the restructuring plan of the Reserve Bank of India in court, and seem ready for a long-drawn battle.
- How much **dilution is fair for existing shareholders to take?**
- **AT-1 Bonds issue:** Should the value of the Additional Tier 1 (AT-1) bonds be written off entirely?
 - As such issues become matters of policy discussion and address, we must not lose sight of some fundamental principles of resolving bank failures.

- **Three of them should be on the top of the list:** honour contracts, address market failure and protect systemic stability.

How honouring contracts matter for economy?

- **For efficient outcomes:** Honouring contracts is vital for achieving efficient outcomes between contracting parties such as lenders and borrowers, managers and shareholders, and insiders and outsiders.
- **Shying away from entering a contract:** If there is uncertainty over this fundamental principle, contracting parties will shy away from entering contracts in the first place.
 - Lenders will be less willing to lend.
 - Prospective minority shareholders will be less keen to buy shares in a company.
- **Impact on allocative efficiency:** This will ultimately compromise the economy's allocative efficiency, or the market's ability to deploy capital to its best use.

AT-1 bond issue

- **Honouring contract in Yes banks resolution:** There are several issues in the application of this principle in Yes Bank's resolution.
 - The most visible one concerns the decision of writing off its perpetual contingent, or AT-1, bonds.
- **Write off:** According to the original agreement, **these additional tier-1 (AT-1) bonds are indeed supposed to be written off at a time like this.**
 - And this write-off need not happen before the common **equity value goes down to zero.**
 - The entire idea behind these perpetual contingent bonds is to improve a bank's capitalization if its common equity value falls below a certain threshold, but does not hit zero.
- **Counter argument:** These bondholders and some commentators are arguing that writing off those bonds will be a big blow to India's bond market.
 - **Moral hazard problem:** This is just the opposite of the truth. Not writing them off in accordance with the original contract will create a severe moral hazard problem.
 - What incentive would any bondholder have to correctly price and monitor these banks in the future?
 - Market discipline would die a quick death, and the bond market will suffer in the long run.
- **What the resolution process should do?** Therefore, the resolution process should honour the contract and write off the entire value of Yes Bank's AT-1 bonds.

Dealing with critical market failures

- **Second core principle:** The second core principle in this resolution should be to tackle some critical market failures that led here.

- Several observers have pointed out **the failure of board oversight, promoter negligence and reckless lending at the bank.**
- **Vital market failure in the purchase of AT-1 bonds by retail investors:** Indeed, these issues must be addressed. But there seems to be another vital market failure hidden in this crisis: the purchase of AT-1 bonds by retail investors.
- **Why AT-1 bonds are complex?** AT-1 bonds are “**information-sensitive**” instruments, which means that the value of these instruments is extremely sensitive to information on the firm’s fundamentals.
 - **Complex financial security:** They are very complex financial securities. Understanding the risk and reward associated with these securities and valuing them properly is not an easy task even for the best of market professionals.
 - **Retail investors are certainly not suited to buy this product.** Still, several of them ended up holding Yes Bank AT-1 bonds in their asset portfolios.
- **Demand deposits and market failure:** Banking theory relies on the idea that demand deposits are **information-insensitive instruments.**
 - Hence, a retail investor can place deposits in a bank without worrying about understanding the real risks borne by it. **Government-backed deposit insurance makes deposits even more liquid and riskless.**
 - Hence, retail investors should hold **regular deposits in a bank, and not complex securities like AT-1 bonds.**
 - **Where is the market failure involved?** If such bonds are sold to them without proper disclosure of the associated risks, then it amounts to a serious market failure.
- **Way forward:** This market failure must be corrected.
 - Holding investment advisors to higher standards of fiduciary responsibility is one way of doing so.
 - Prohibiting retail investors from investing in such securities is another critical step to prevent such a market failure.

Way forward to carry out the resolution process

- **Restitution of value to retail investors:** Meanwhile, the resolution process could consider partial or full restitution of value to retail investors in Yes Bank’s AT-1 bonds, if these products were indeed mis-sold to them.
- **Large professional investors should be treated differently:** But such a rescue must not extend to large professional investors who willingly bought these bonds for higher returns.
 - One mechanism to do this could be to **create a separate fund for retail investors** with investments capped at a certain point.
 - Or, their **AT-1 investments up to a specific limit could be converted into a simple deposit contract.** The legal hurdles may be insurmountable.
 - However, in principle, those who mis-sold these products to retail investors should be required to compensate them.

- **Conflict in two principles:** Sometimes, these principles can come into direct conflict with each other.
 - If the resolution allows retail investors in those AT-1 bonds to recover their investments, it would go against the “**honour the contract**” principle, but it would address the “market failure” issue.
- **Ensuring systemic stability:** How should we reconcile this conflict? That’s where the third principle comes in: ensuring systemic stability.
 - After all, the regulator’s main objective is to restore the market’s faith in the country’s financial system.
 - While this is not an easy task, **protecting the capital and confidence of small investors can go a long way in restoring their faith in the banking system.**

Conclusion

Resolving bank distress is never an easy job. But honouring contracts, addressing market failure and ensuring systemic stability can together go a long way in achieving a fair and efficient outcome.

19. Starch-based Materials to Stop Blood Loss

Why in News

- Recently, scientists from the **Institute of Nano Science and Technology (INST)** have developed a **starch-based ‘hemostat’ material that concentrates the natural clotting factors in blood by physically absorbing excess fluid.**
 - Hemostat materials absorb excess fluid by concentrating the natural clotting factors in the blood that are critical for stopping the blood flow.

Key Points

- The product is made by microparticles known as '**calcium-modified carboxymethyl-starch**'.
- When the microparticles combine, they create an **adherent gel** that can remain on the wound until slowly dissipating as healing proceeds.
- These microparticles are prepared by **modifying some of the chemical hydroxyl groups on starch to carboxymethyl groups** while also incorporating the beneficial calcium ions, which encourages the aggregation of red blood cells and platelets and their activation to generate the fibrin protein network that forms a stable blood clot.

- **This modification increases the ability of the molecules to interact with water.** This is the basis of its impressive ability to absorb fluid from the blood and hence concentrate the clotting factors.
- **The product has increased absorption capacity and adhesion, it is inexpensive, non-toxic, biocompatible as well as biodegradable.**
- Presently, no single hemostatic agent exists that can work in all situations and current hemostat materials are very expensive and available mostly in developed countries.

Blood Clotting

- Clotting is a necessary process that can **prevent too much loss of blood when there is cut or injury.**
- A blood clot is a **clump of blood** that has changed from a liquid to a gel-like or semisolid state.
- Blood clots are healthy and lifesaving when they stop bleeding. But unnecessary clotting causes serious medical problems which include a heart attack, stroke, etc.
 - E.g If a clot formed inside one of veins breaks free and travels through veins to heart and lungs, it can get stuck and prevent blood flow.
- An injury or a trauma stimulates the **platelets (also called thrombocytes)** in the blood to release certain factors which activate the mechanism of clotting.
 - **Calcium ions, Fibrinogens, a protein and Vitamin K** are also needed for clotting.

Starch

- Starch is a **carbohydrate** extracted from agricultural raw materials.
- The starch molecule consists of a large number of glucose units joined by glycosidic bonds.
- It is the most important carbohydrate in the human diet.
- Because it is renewable and biodegradable it is also a perfect raw material as a substitute for fossil-fuel components in numerous chemical applications such as plastics, detergents, glues etc.

Institute of Nano Science and Technology (INST)

- INST is an **autonomous institution** of the **Department of Science and Technology**, Government of India under the **Society Registration Act, 1960.**

20. Coming to terms with biometrics in policing (GS-3)

Context:

- The author of the article argues for the use of **counter-crime facial recognition technology**.

Background:

Police functions:

- There has been growing consensus that the police duties should not be restricted to the mere **maintenance of peace in public places** but should focus equally on **crime prevention and detection**.
- While preventing a crime is difficult and usually beyond human capacity (because of the dimensions and complexities of modern society), solving a crime is relatively easy.

Under-performance of the police:

- There has been gross **under-performance by the police with respect to law enforcement** in crime prevention and detection.
 - Crime using knives continue to worry London's Metropolitan Police, while the frequency of gun violence is high in U.S. cities, **despite robust and aggressive policing**.
 - Even police forces with huge manpower and with access to the latest technology have not been able to increase the **success rates in solving crime**, which lie in the **low range between 30% and 40%**. The low percentage of crime detection has led to the **lack of public confidence in policing**.
 - Even in the Indian scenario, except in sensational cases which have attracted considerable public and media attention, the Indian police have also been guilty of underperformance.

Paradox:

- Though **citizens demand newer crime control measures to help keep them safe**, they also sometimes **resent productive and smarter police innovations in the field of crime control**, because of perceived danger to individual rights and privacy.
- The main argument has been that the end of solving crimes cannot and should not justify the means used by state agencies.

Details:

Counter-crime facial recognition technology:

- A facial recognition system is a **technology capable of identifying or verifying a person from a digital image or a video frame** from a video source.
- Generally, the technology helps **compare selected facial features from given image with faces within a database**. Also described as a **Biometric Artificial Intelligence based application**, it can uniquely identify a person by analyzing patterns based on the person's facial textures and shape.
- Taking into account how criminals merge with the community to escape identification, law enforcement and security agencies have been using facial recognition technology to **track down criminals and help in crime detection**.

India's efforts:

- India has an ambitious plan to construct one of the world's largest facial recognition systems. The project envisions a future in which police from across the country would have access to a **single, centralized database**.
- The details of **the national aggregator project called the National Automated Facial Recognition System** were highlighted in the report by the National Crime Records Bureau.
- The project would match images from the country's growing network of CCTV cameras against a database encompassing images of criminals, passport photos and images collected by various security agencies.
- Many agencies and state governments are already **using their own facial recognition apps**.

Concerns:

- There have been sharp adverse responses to the increased use of counter-crime facial recognition technology.

Bias:

- There are concerns that the **software discriminates against minorities and ethnic groups**, especially blacks and other non-whites. The suggestion is that there are a disproportionate number of black and non-white faces captured by this software. **This charge applies mainly to the police in the U.S.**
- There have been charges of bias against the 'stop and frisk' practice of the New York Police to combat crime. Several studies conducted revealed that more black and brown people were stopped and frisked than was warranted. The same charge of bias has now been brought against face recognition technology.

Lack of regulation:

- Currently, there are **no laws regulating the use of facial recognition technology**. Given that this technology can be a **powerful tool in the hands of the**

government and is liable to be misused, regulation should logically come before deployment of the technology.

- The lack of a legal infrastructure that prevents the use of invasive technologies by agencies and state-backed organizations is a major concern.

Privacy violation:

- There has been opposition also from the rights activists who focus on privacy violation due to the facial recognition technology. They claim that the **practice of capturing faces or policing without consent harms individual's right to privacy**. They have raised the spectre of **mass surveillance**.
- The Supreme Court ruled in 2017 that Indians have a **fundamental right to privacy**.

Chances of error:

- The technology, despite the claim of infallibility by the promoters, has many a time been found **guilty of errors**. Therefore, harassment of innocent citizens is not uncommon.
- The **danger of misidentification** is a major concern.

Counter-arguments:

Making up for the shortfall:

- India has just 144 police officers for every 100000 citizens. The authorities have turned to facial **recognition technology to make up for the shortfall of police personnel**.

Effectiveness of the technology:

- The staunch defenders of the technology have been the police who have stressed on the **effectiveness of the technology in tackling crime**. It has been used to police large events and fight crimes in states like Andhra Pradesh and Punjab.
- Indian police, for example, in the state of Telangana, under the **Operation Smile**, have **reunited thousands of missing and trafficked children with their families** using a new facial recognition app.
- An increasing number of **cases are being solved** with the help of facial recognition in cities like London and New York.

Unfounded concerns:

- The defenders of the technology have dismissed the charge that the technology is against the privacy rights of an individual.

- **Citizens do hand over data to private companies while availing services** from them, still there are no concerns being expressed about privacy. The concerns with sharing similar data with the police are unfounded.
- **Individual's faces are already online** in a number of places. **Increased use of CCTV cameras in a number of public places is in a sense a threat to anonymity.**
- There is the possibility of having **provisions which further help protect an individual's right to privacy.**
 - There are several provisions in place in important cities like London with respect to protecting privacy rights. The photos captured are compared with the database of the police. **The moment there is no match of a face with existing records, it is deleted.**
 - Even when there are matches with the existing police database, the photos are **deleted within 31 days of capture if there is no requirement for further investigation.**
- Though there cannot be the claim of infallibility, **grave errors from its use have been found to be few and far between.**
- The argument of bias falls flat given the fact that the cameras are meant to take pictures at random rather than of specific segments of the population.

Conclusion:

- Just as DNA testing establishes either the guilt or the innocence of a person arraigned for crime, facial recognition performs an equally **vital role in criminal justice administration.**
- Though modern technologies like facial recognition technology is fraught with hidden dangers, there should be hope that **care and sophistication in its implementation** would help transform investigation.

21. A case for more policewomen (GS-3)

Context:

- Women in the police force.

Background:

- In 2009, the **Home Ministry set 33% as the target for women's representation in the police.**
- Since then, the central and state governments have focussed on increasing women's recruitment in the police force. **Reservation has been the primary tool** to increase women's representation in the police force.

Concerns:

Large deviation from the set target:

- **In 2019, women comprised less than 10% of police personnel.**
- Only seven States (Tamil Nadu, Bihar, Maharashtra, Himachal Pradesh, Uttarakhand, Gujarat and Sikkim) had more than 10% policewomen.

Lack of intent:

- **No government has so far developed any action plan** with clear timelines to meet the quota within a specified time period.
- The annual change in the share of women in the police force from 2012 to 2016 was found to be less than 1% across States, according to the India Justice Report, 2019. There has been a meagre 5% increase in the number of policewomen in a decade (3.65% in 2009 to 8.98% in 2019).
- **At this rate, most States will take over 50 years to achieve the 33% target.**

Selective implementation:

- While the States have adopted the reservation policy, they have been very **selective about its implementation.**
- Very few States apply reservation for women at all the entry points (constable, sub-inspector, and deputy superintendent of police levels) or to all posts at each level.
- Other **states have applied reservation only at the lower entry levels.** In some cases, reservation is limited to specific cadre posts within each rank.

Lack of representation at higher levels:

- The selective implementation of the reservation policy has led to **huge disparity in the representation of women across ranks.**
- There are far fewer women at the gazetted ranks at the State level (assistant sub-inspector to deputy superintendent of police) than those at the constabulary level. **Women remain in large numbers at the bottom of the ladder without moving up.** There are reduced chances of women getting promoted to leadership and supervisory positions.

Gender-based crimes:

- Given the fact that there are very few women officers in the higher ranks, there are **not enough women personnel to perform exclusive functions when gender-based crimes are reported.**

- The 2013 circular by the Home Ministry states that at least three women sub-inspectors should be available in a police station as investigating officers. Tamil Nadu, which has the highest percentage of women personnel would still fall short and require more women sub-inspectors to meet this standard across its police stations.

Challenges:

- The **major institutional barriers** to women in the force include:
 - Frequent inter-district transfers
 - Disallowing postings in home districts for specified periods of time
 - Poor childcare support systems
 - Lack of adequate facilities and infrastructure for women
- **Sexual harassment at the workplace** that policewomen suffer needs to be adequately acknowledged.
- **Discrimination in work** is a concern. **Women are typecast**, for example, they are asked to deal with crimes against women, while they are kept outside the mainstream of varied experiences.

Way forward:

- The underlying assumption seems to be that an increase in numbers will automatically make the **organisational culture more egalitarian**. It is time to look beyond mere number of women in the force to **institutional barriers that hinder women's growth within the service**.
- Institutional changes embedded in **principles of diversity, inclusion and equality of opportunities are important**.

22. Use of Waterways for Reducing Transportation Cost

Why in News

Recently, the **Minister of State for Shipping** has informed in the Rajya Sabha that **significant savings** in the cost of transportation are expected by **using the Inland Water Transport (IWT) mode**.

- IWT mode is widely recognized as **environment-friendly** and **cost-effective** mode of transport.
- It **aims to create** for the shippers and logistic players, **an alternative** to the two dominant modes of transport viz. road and rail.

Key Points

- As per **BITES Report of 2014 on Integrated National Waterways Transportation Grid**, the cost comparison on the modes of surface transport is given below:

Mode	Highways	Railways	IWT
Freight (Rs./T.km)	2.50	1.36	1.06

- India has about 14,500 km of navigable waterways which comprise of rivers, canals, backwaters, creeks, etc.
- About 55 million tonnes of cargo is being moved annually by IWT, a **fuel-efficient and environment-friendly mode**.
- As per the **National Waterways Act 2016**, **111 waterways have been declared as National Waterways (NWs)**.
 - **National Waterway-1 (Prayagraj-Haldia)** with length 1620 km is the **longest National waterway in India**.
- The **Inland Waterways Authority of India (IWAI)** is implementing the **Jal Marg Vikas Project (JMVP)** at an estimated cost of ₹5369.18 crores for capacity augmentation of navigation on the **Haldia-Varanasi stretch of Ganga (part of NW-1)** with the technical and financial assistance of the **World Bank**.

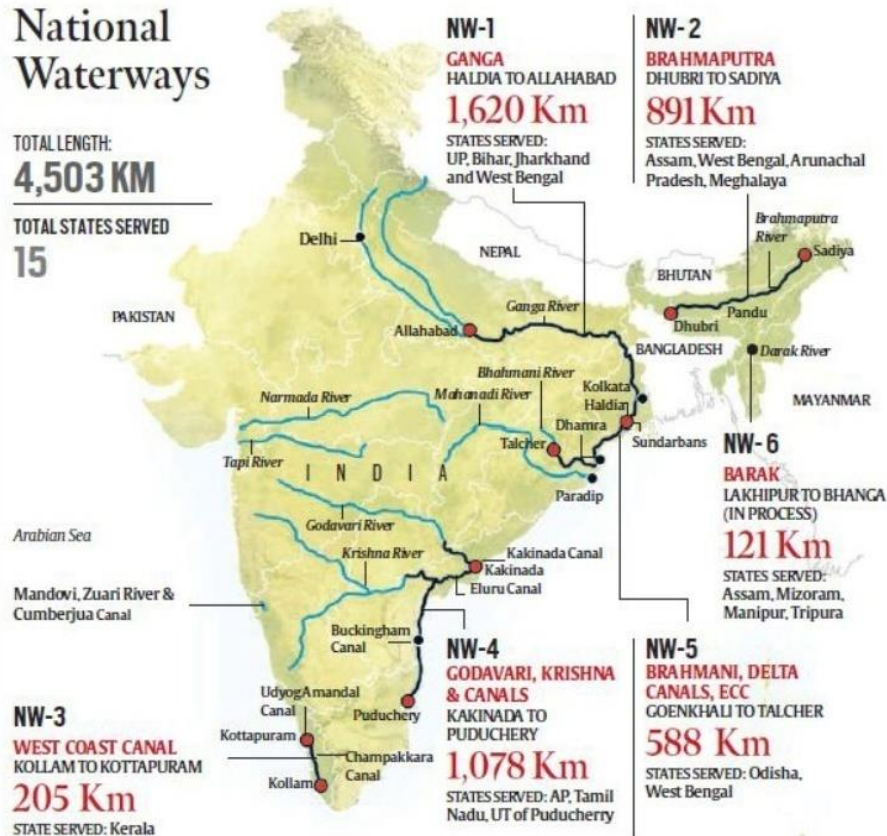
Integrated National Waterways Transportation Grid

- It plans to **link many of the national waterways to each other and also to roads, railways and major ports**.
 - Setting up of a large number of ports/terminals, riverside jetties, godowns, boat building workshops, repairing yards and ancillary industries will spur investment opportunities.
- The capital cost is estimated at ₹22,763 crores to be used in **phase-I (2015-18)** and **phase- II (2018-23)**.

National Waterways

TOTAL LENGTH:
4,503 KM

TOTAL STATES SERVED
15



Inland Waterways Authority of India

- It came into **existence on 27th October 1986** for development and regulation of inland waterways for shipping and navigation.
- It primarily undertakes **projects for development and maintenance of IWT infrastructure** on national waterways through grants received from the **Ministry of Shipping**.
- It is **headquartered at Noida** with **regional offices** at Patna (Bihar), Kolkata (West Bengal), Guwahati (Assam) and Kochi (Kerala) and sub-offices at other places throughout India.

23. From Plate to Plough: Growth and the farmer

Context

Last month, Montek Singh Ahluwalia's book, *Backstage: The Story Behind India's High Growth Years*, was released. Which tilt in favour of consumer in food policy reduces incentives for farmers, makes it difficult to unlock resources for growth.

What is covered in the book

- Besides some very interesting episodes pertaining to author's personal and professional life, the book is full of useful insights into **policy debates and their complexities**.
- At many places, it provides **evidence of the impact of these policies**.
- This can be extremely useful as we try to rejuvenate the country's sluggish economy and abolish poverty.

Inclusive growth and agriculture

- **Growth in agriculture must for inclusive growth:** During the UPA period, from 2004-05 to 2013-14, it was believed that inclusive growth is not feasible unless agriculture grows at about 4 per cent per year while the overall economy grows at about 8 per cent annually.
- **The reason was simple:** More than half of the working force at that time was engaged in agriculture and much of their income was derived from agriculture.
 - But many political heavyweights, **did not believe that agri-growth could reduce poverty fast enough**.
- **Main instrument of agricultural strategy:** The main instrument of agricultural strategy was the Rashtriya Krishi Vikas Yojana (RKVY), which gave more leverage to states to allocate resources within agriculture-related schemes.

What was the impact of strategy?

- **Agri-growth increased:** The agricultural strategy, along with other infrastructure investments in rural areas, **had a beneficial impact on agri-growth**.
 - Agri-growth increased **from 2.9 per cent** during the Vajpayee period (1998-99 to 2003-04) **to 3.1 per cent** during the UPA-1 period (2004-05 to 2008-09) and further **to 4.3 per cent** during UPA-2 (2009-10 to 2013-14).
 - The agri-GDP growth during UPA-2 was driven not as much by RKVY as it was by high agri-prices in the wake of the global economic crisis of 2007-08.

- **Impact on poverty reduction:** Agri-GDP growth had a significant impact on poverty reduction, whichever way it was measured – the Lakdawala poverty line or Tendulkar poverty line, which is higher.
 - **At what rate poverty reduced?** The rate of decline in poverty (headcount ratio), about 0.8 per cent per year during 1993-94 to 2004-05, accelerated to 2.1 per cent per year, and for the first time, the absolute number of the poor declined by a whopping 138 million during 2004-05 to 2013-14.
 - Interestingly, this holds even on the basis of the international poverty line of \$1.9 per capita per day (on 2011 purchasing power parity, PPP, also see graphs).

Right to food and debate around it

- **Scepticism over the success of agriculture support to food subsidy:** Instead of celebrating this success of the growth strategy in alleviation of poverty, several NGOs and even Congress stalwarts remained sceptical.
 - They advocated food subsidy under the Right to Food Campaign.
 - National Advisory Council (NAC) came up with a proposal to subsidise 90 per cent of people by giving them rice and wheat at **Rs 3/kg and Rs 2/kg**.

What were the arguments put forward by Montek Singh Ahluwalia?

- **Burden on exchequer:** He tried to convince them that this was likely to **create an unsustainable burden on the exchequer**.
- **India could end up importing food:** He also argued that India could end up **importing grains** to the tune of 13-15 million tonnes per year.
- **Cap the population coverage at 40%:** He favoured a cap at 40 per cent of the population to be covered under the Food Security Act as the poverty ratio (HCR) in 2011-12 was 22 per cent.
- **Smart card to beneficiaries:** He also favoured providing smart cards to the beneficiaries so that they could opt for buying **more nutritious food** rather than just relying on rice and wheat.
- **Chance for diversification of agriculture:** Smart card with beneficiaries would have also allowed **diversification of agriculture** and augmented farmers' incomes.
 - But he could not win over the NAC – although the coverage for food subsidy was reduced from the original proposal of **90 per cent to 67 per cent** of the population.
- **Against the ban on agri. export:** Montek also argued against export bans on agricultural commodities as these impacted farmers' incomes adversely.
 - **Government siding with consumers:** But the government of the day often ended up taking the consumer's side, as that was considered pro-poor.

- This reduced the incentives for farmers, who then had to be compensated by increasing input subsidies.

What are the result of this strategy adopted by the government?

- **Negative PSE:** No wonder, years later, when we estimated the producer support estimates (PSEs), as per the OECD methodology – used by countries that produce more than 70 per cent of the global agri-output – we found a deeply negative PSE.
 - **What negative PSE indicates?** This indicates implicit taxation of agriculture through trade and marketing policies, even when one has accounted for large input subsidies going to farmers (see graph on PSE).
- **Consumer bias in the system:** Today, the food subsidy is the biggest item in the Union budget's agri-food space. In the current budget, it is provisioned at **Rs 1,15,570 crore**.
 - **Borrowing by FCI not factored in:** But this factor hides more than it reveals. Lately, the government has been asking the Food Corporation of India (FCI) to borrow from myriad sources, and not fully funding the food subsidy, which should logically be a budgetary item.
 - The outstanding dues of the FCI are more than the provisioned subsidy, and if one adds these dues to the budgeted food subsidy, **the effective amount of food subsidy comes to Rs 3,57,688 crore**.
 - This displays the consumer bias in the system.

Conclusion

- **Restrict the population coverage of food subsidy:** The Economic Survey of 2019-20 makes a case for restricting food subsidy to 20 per cent of the population – the headcount poverty in 2015 as per the World Bank's \$1.9/ per capita per day (PPP) definition was only 13.4 per cent.
 - For the others, the issue prices of rice and wheat need to be linked to at least 50 per cent of the procurement price or, even better, 50 per cent of the FCI's economic cost.
- Unless we make progress on this front, it is difficult to unlock resources for the growth of agriculture, which slumped from 4.3 per cent during UPA-2 to 3.1 per cent during Modi 1.0.

24. Smart-locking India: India has political will, resources to shut down country intelligently to counter coronavirus spread

Context

Currently, India has entered Stage 2 of the COVID 19 epidemic, but can we do something urgently to halt it before Stages 3 and 4, and prevent it from becoming another China or Italy? Let's look at what COVID 19 is doing globally and what it has already done in India.

Nature and characteristics of COVID-19

- **It belongs to a simple family of cold viruses:** Coronavirus 19, which emerged from China but has now spread globally, belongs to a simple family of common cold viruses which look innocent and harmless, unlike the sinister flu.
- **Footprints of similar epidemics:** It has footprints of two similar epidemics: SARS (2002) and MERS (2012) apart from Ebola, which were contained well globally in the last two decades.
- **They are the group of viruses:** Coronaviruses are large groups of viruses seen in humans as well as animals like camels, bats, cats, and even cattle, which India should take note of.
 - The current COVID 19 appears to be a bat-originated beta variant of the coronavirus.
 - **Who is the most vulnerable?** The human COVID disease is fatal predominantly in elderly or vulnerable groups, such as people with a chronic disease like hypertension, diabetes, cancer or people with suppressed immune systems.
- **How it is spread?** It is spread via airborne droplets (sneeze or cough) or contact with the surface. It is possible that a person can get COVID-19 by touching a surface or an object that has the virus on it and then touching their own nose, eyes or mouth.

Susceptibility and the measures needed to contain the spread

- **Mode of spread:** The way virus spreads creates vulnerability and susceptibility of the spread of the virus through **airborne droplets and contact surfaces** – which are now, therefore, targets of public hygiene for preventing the spread.
- **Why India is more vulnerable?** We are vulnerable due to the large population constantly travelling and working: This needs immediate containment to halt the virus spread. We are a ticking time bomb now with less than 30 days to explode in Stage 3, which will be the virus getting deeper into communities, and which will then be impossible to contain.
- **Poor public hygiene in India:** Public hygiene in India is poor despite the “Swachh Bharat (Clean India)” movements. We need to have legislation with a penalty to stop spitting in public as well as private spaces.
- **Past performance:** India has done very well to contain both SARS and the novel Nipah viral spread very well.

Should India shut down the cities?

- **From China to global spread:** The COVID 19 virus possibly came from the Wuhan epicentre of central China. Subsequent it assumed a large enough proportion to be called a pandemic. It rapidly transitioned across different geographies of the world including Korea, Japan, Iran, Italy and others for the WHO to declare it as a pandemic.
- **Neighbouring countries shutting down the cities:** neighbouring countries like Thailand and Singapore shut down their major cities and towns for a few weeks to stop it from moving onto the next stages.
- **Should India shut down the cities?** The big question today is, should the Indian government and the state governments stop the virus spread from Stage 2 to 3 by totally shutting down cities and towns when the economy is already fragile and on the brink?
- **From cluster to community spread:** India had its first case diagnosed on January 30, from a student who returned from China. Later, it had a very slow spread despite the global transit involved. **Such individual cases will become small clusters.**
 - These clusters will then spread to communities.
- **We must halt the community-wide spread:** Currently, we have just moved from case to clusters, but we must halt the community-wide spread.
- **Biphasic or dual-phase infection:** COVID 19 usually follows what is known as a biphasic or dual-phase infection, which means the virus persists and causes a **different set of symptoms than observed in the initial bout.**
 - Also, sometimes, the **recovered person can relapse.**
- The possibility of “super spreader”: Currently, the cases and clusters in India are simple spreaders which means an infected person with normal infectivity.
 - **What is it?** But COVID 19 can also have a “super spreader”, which means an infected person with high infectivity who can infect hundreds in no time.
- This was reportedly seen in Wuhan where a fringe group spread the virus via a place of worship in Korea, infecting almost 51 cases.
- India saw a **mini spurt of cases** on March 4, and then again between March 10 and 13, when cases jumped from 23 to 35, yet no super spreader was present.
- **We need to halt transition from stage 2 to stage 3:** Now we have almost crossed a hundred cases and we must be vigilant.
 - As we enter Stage 2, we will now see a **geometric jump** in the number of cases which will put us at risk of rapidly transitioning from Stage 2 to 3 like Italy, which we need to halt urgently.

Conclusion

The ICMR has rightly advised the government to go into partial shutdown but is it too little too late now? It's time to halt COVID 19 by smartly locking the country at home so that we can have a better tomorrow. This needs a political will which we currently have.

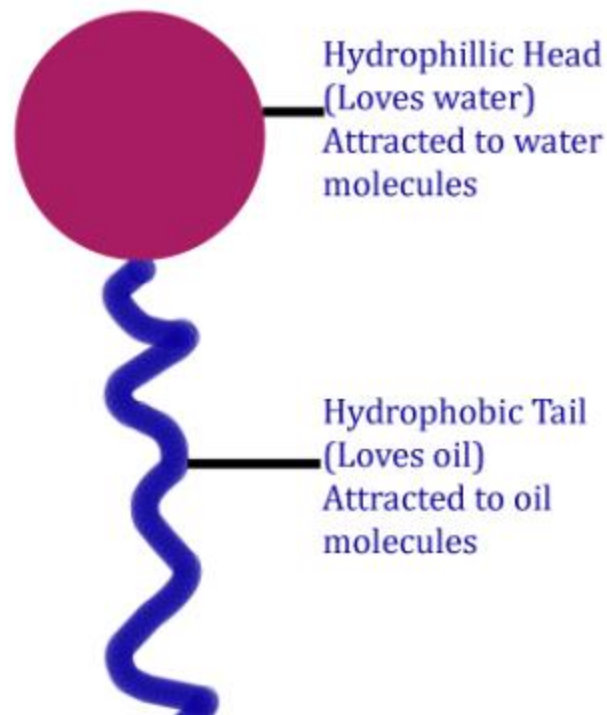
25. How does soap use help in tackling COVID-19? (GS-3)

Context

- The WHO has issued guidelines to reduce the risk of infection. It includes a regular and thorough cleaning of one's hands with an alcohol-based hand rub or washing them with soap and water.

How does washing with soap helps get rid of the coronavirus?

- The dirt on our hands contains innumerable viruses and bacteria. Washing with only water helps reduce the number of microbes but does not remove most of the virus and bacteria completely. Using soap, therefore, becomes **far more effective in removing microbes**.
- Viruses such as coronavirus, influenza-causing viruses, Ebola, Zika have their genetic material **encased in a layer of fat called the lipid envelope**.
- **Soap molecules** are pin-shaped with a **head** that is water-loving (hydrophilic) and a **tail** that is oil-loving (oleophilic).
 - Being oleophilic, the **tail portion of the molecule tends to have an affinity** for and 'competes' with the lipids in the virus envelope.
- Since the **chemical bonds holding the virus together are not very strong**, the long oleophilic tail gets inserted into the envelope and tends to have a 'crowbar' effect that breaks the lipid envelope of the virus.
 - The **tail also competes with the bond** that binds the RNA and the lipid envelop thus dissolving the virus into its components which are then removed by water.
 - The oil-loving tail of the soap molecule thus disrupts the bond that binds dirt and non-enveloped viruses to the hand. The **dirt and viruses are surrounded by several tails making them remain suspended particles**. Rinsing with water washes away the suspended particles leading to clean hands.



Do all viruses have the lipid layer?

- No, certain viruses do not have the lipid envelop and are called the **non-enveloped viruses**.
 - Rotavirus which causes severe **diarrhea**, **poliovirus**, **adenovirus** that causes pneumonia and even human papillomavirus (HPV) does not contain the lipid envelop.

How do alcohol-based hand sanitizers help get rid of coronavirus?

- Like soap, the alcohol present in **hand sanitizers dissolves the lipid envelop**, thus inactivating the virus.
- In addition, the alcohol also tends to change the shape or denature the mushroom-shaped protein structures that stick out of the lipid envelope.
 - The mushroom-shaped protein structures help the virus to bind to special structures found on human cells and enter the cells.
- To be effective, the **sanitizers should contain at least 60% alcohol**.
- Unlike soap lather, the alcohol does not come in contact with all parts of the hand. So care needs to **be taken to use sufficient sanitizer to increase the coverage**.
- While a sanitizer can quickly reduce the number of microbes, it does not get rid of all types of germs, and is “not as effective when hands are visibly dirty or greasy”.

Should healthy people who are not taking care of COVID-19 patients use a mask?

- Medical masks help prevent the spread of coronavirus infection. If worn properly, masks may be effective in preventing transmission of coronavirus.
- Transmission through droplets from coughing and sneezing is one of the major routes of virus spread. When worn correctly, a mask can reduce the risk of inhaling droplets containing the virus.
- With many studies showing that people infected with novel coronavirus transmit the virus even before symptoms show up, it may be prudent to wear a mask especially when the virus is spreading in the community.

What other precautions should be taken when a mask is used?

- WHO cautions that using a mask alone will be insufficient to provide an “adequate level of protection”. It should be combined with hand hygiene to prevent human-to-human transmission.
- So if an individual decides to wear a mask, care must be taken to regularly wash hands with soap or alcohol rub, and avoid touching the face with hands.
- Incorrect mask-wearing might otherwise reduce the effectiveness in cutting the risk of transmission. It should be discarded once it gets wet or dirty, and care should be taken to safely dispose of used masks. The same mask should not be used for more than a couple of hours.

26. Yes Bank and bonds (GS-3)

Context

- The Government and the RBI are working on restructuring the Yes Bank.
- The **draft restructuring proposal** put out by the Reserve Bank of India (RBI) says **AT1 bonds will be entirely written off**, while equity owners will be spared.

Basel Accord

- The primary purpose of a bank is to engage in the business of banking, which entails taking deposits and giving loans. For engaging in this business, **banks are required to have sufficient capital**, such that their deposit holders are protected.
- The capital required by banks is regulated by The Reserve Bank of India, which is the primary regulator for all banking activities in India. Internationally, **central bankers like RBI follow common minimum standards** of capital adequacy, which are known as the **Basel accords**.
- Post the Global Financial Crisis in 2008, regulators around the world agreed to **stronger capital adequacy norms, to protect banks from any systemic risk and**

keep adequate capital buffers. These regulations are known as **Basel III regulations** and banks in India are following these guidelines

- Requiring banks to have their own finance in the form of permanent capital, before taking on deposits or loans, is one of the underlying principles of Basel III norms.

Tier 1 and Tier 2 capital

- Under the Basel III framework, banks' regulatory capital is divided into Tier 1 and Tier 2 capital.
 - In India, one of the key new rules brought in was that banks must maintain capital at a minimum ratio of 11.5 percent of their risk-weighted loans.
 - Of this, 9.5 percent needs to be in Tier-1 capital and 2 percent in Tier-2.
- **Tier-1 capital refers to equity** and other forms of permanent capital that stays with the bank, as deposits and loans flow in and out.
- Tier 1 capital is subdivided into **Common Equity Tier (CET) and Additional Capital (AT1)**.
 - Equity and Preference Capital is classified as CET
 - Perpetual bonds are classified as AT1.
 - Together, CET and AT1 are called **Common Equity**.

Common Equity Capital

Under Basel III norms, the minimum requirement for Common Equity Capital has been defined.

- By nature, CET is the **equity capital of the bank, where returns are linked to the banks' performance** and therefore the performance of the share price.

What are AT1 bonds?

- **AT1 bonds, also known as Additional Tier 1 bonds, are unsecured perpetual bonds issued by banks to shore up their capital base to meet Basel III requirements.**
 - AT1 bonds are issued by banks to supplement their permanent or Tier 1 capital which is mainly made up of equity shares.
- Both AT1 and Tier 2 capital are subordinated debt instruments and are ranked lower than deposits, secured and unsecured creditors in the order of liquidation.
- The investors in such instruments typically include mutual fund houses and bank treasuries.
 - The investors invest in these bonds **because of higher yield** than secured bonds issued by the same entity.

1. Unique Features

- AT1 bonds are in the nature of **debt instruments, which carry a fixed coupon payable annually** from past or present profits of the bank. These AT1 bonds have **no maturity and are therefore called perpetual bonds**.
 - These bonds are perpetual and carry no maturity date.
 - Instead, they carry call options that allow banks to redeem them after five or 10 years.
- If the **RBI** feels that a bank is tottering on the brink and needs a rescue, it can simply ask the bank to cancel its outstanding AT-1 bonds **without consulting its investors**.
 - This is what has happened to YES Bank's AT-1 bond-holders who are said to have invested ₹10,800 crore.
 - The write-off also kicks in if the RBI decides that the bank is beyond the "Point of Non Viability" or needs a public sector capital infusion to survive

2. Risks Associated with these bonds

- First, the issuing bank has the discretion to **skip coupon payments**.
 - Under normal circumstances, it can pay from profits or revenue reserves in case of losses for the period when the interest needs to be paid.
- Second, the bank has to maintain a common equity tier I ratio of 5.5%, failing which the bonds can **get written down**.

How did these bonds get into the hands of retail investors?

- Reports suggest that retail investors were sold **these high-value bonds** (the face value is ₹10 lakh each) as high-return alternatives to fixed deposits, given that they were offering 2-3% higher interest than FDs.
- Some investors also **bought them through their brokers** based on their high yields in the secondary market.

How it will impact the AT1 bondholders?

As a part of this proposal, the RBI has proposed to permanently write off the AT1 bonds issued by the bank while protecting the interest of the depositors.

- Such a proposal ends up affecting retail investors who may have invested in the AT1 bonds directly.
- It also impacts investors who have invested in Mutual Funds which in turn have invested in these instruments.

So who should invest in AT1 bonds?

- Only affluent investors who are willing to take on a higher risk of a capital loss for higher yields.

Possible Solution

Given that one of the important objectives of the regulator is to protect retail investors, a solution has to be found which will protect the interests of these investors.

- One of the probable way out is to convert the debt into equity.
- This conversion allows the bank to write off their liability, can offset the higher permanent capital against provisions for bad loans and still give the bondholders the chance to participate in the future success of the bank and recover their lost dues.
- A permanent write down, while within the regulatory ambit, changes the risk characteristics of this instrument and may end up damaging the AT1 market in India permanently.

27. Is the global economy headed for recession? (GS-3)

Context

- The global death toll due to COVID-19 has crossed the 5,300 mark, with over 1.42 lakh people infected. India, where 88 people have been infected, saw two casualties. A diverse set of industries has been impacted by the spread of the virus.

What does it mean to the global economy?

- Analysts fear that the global economy may tip into a recession unless the virus turns out to be seasonal.
- A recession sets in when the economy **shows two consecutive quarters of contraction.**

Why should the economy be affected?

- If individuals **engage less with the outer world** and avoid work, education, fitness, and entertainment, a lot less economic activity would occur.
- Businesses face the challenge of disrupted supply of components to make products, or of having to shut some of their factories temporarily, not to mention the workforce having to be quarantined.

Which are the industries impacted?

The Indian pharmaceutical, automobile, and mobile phone industries, immediately trembled.

- The **Indian Pharma Industry**, which depends on China for 70% of raw materials needed to manufacture drugs here, has seen input costs go up by 50%
- The **Pesticides Sector** is another that has been affected as manufacturers depend on China for raw materials.
 - While there are comforting stock levels for now in India, farmers may soon face pesticide availability issues unless the situation resolves quickly.
- Even the **Software Services Industry**, which easily lends itself to working from remote locations, will have some issues as the decision-making is mostly in the West.
 - Since it is the key market for software services, it may be hit, with inbound travel restricted and the U.S. declaring an emergency.
- Textile and clothing exporters have started feeling the impact of Covid-19 because of supply chain disruptions, fall in exports and the cancellation of international events.

How will it hit the travel sector?

Travel has been hit severely as countries issue advisories to eliminate unnecessary travel and go into lockdown mode.

- The **U.S.**, for instance, has halted all inbound travel from Europe.
- **India** has temporarily stopped grant of visas except for emergency situations.
- **Operators and service providers** The vendors in the airport who provide services suffer due to this restriction. It this impacts the profits of – and jobs at – airlines, airport authorities and oil marketing companies
- Evidence has also shown that **cab drivers** cannot afford to have their cabs out of circulation for even as short a period as a week if they have to provide comforts to their families. Curtailed travel and commutes can be devastating for them.

Commercial Impact of Coronavirus on Sports and Entertainment

1. Sports

- **Indian Premier League** has been postponed.
- The **South Africa-India cricket series** has been cancelled.
- **In football**, all Union of European Football Association (UEFA) competitions, including the Champions League and Europa League matches, have been postponed
- **Formula 1** has called off the first race of the season, the Australian Grand Prix. In golf, the PGA has cancelled its Players' Championship.

- The **S. basketball association**, the National Basketball Association (NBA) suspended its season's events indefinitely

2. Movies

- States such as Kerala have shut down **cinema halls** for this month.
- **Indian movie releases** have been postponed indefinitely.
- The iconic **Disneyworld** has brought down its shutters temporarily to help prevent the spread of the virus

Is there a silver lining at all?

- Sales of medical supplies, soaps, hand sanitizers and essentials to be stocked up at home will evidently rise.
- It is said that after the Severe Acute Respiratory Syndrome (SARS) epidemic in China in 2003, shoppers began to prefer buying online, **to avoid crowded spaces and that e-commerce major Alibaba's fortunes zoomed after this.**
- **Digital shopping** may get a boost.
- With schools shutting down temporarily, **online learning platforms** are likely to get a boost.

28. MPs' panel concerned at Defence fund shortfall

Context

- The **Parliamentary Standing Committee** on Defence has expressed concern **at the widening gap between projections and allocations in the defense budget** impacting modernization and has recommended a dedicated fund for committed liabilities and procurements.
- The shortfall in the allocation has also affected setting up of three tri-service organizations and the operational readiness of the Andaman and Nicobar Command (ANC)

A look at numbers

- The gap in capital allocation for the **Army**, which was 4,596 crore in 2015-16, has increased to 17,911.22 crore in 2020-21 (14% to 36%).
- In the case of the **Navy**, the difference was 1,264.89 crores in 2014-15, which has increased to 18,580 crores in 2020-21 (5% to 41%) and
- For the **Air Force**, the gap of 12,505.21 crores in 2015-16 has increased to 22,925.38 crores in 2020-21 (27% to 35%).

Extracts from the report

- The Committee feels such a situation is **not conducive for preparation of country to modern-day warfare**, as possession of capital intensive modern machines are pre-requisite for not only tilting the result of war in our favor but also having a credible deterrence
- The Committee observes that the **Navy's fighting capabilities depend on the high-value platforms** like an aircraft carrier, submarines, destroyers, and frigates but the allocation of Capital Budget for Navy [percentage-wise] has the sharpest decline.

Committed Liabilities

Capital acquisition of the armed forces consists of two components:

- Committed Liabilities
 - Committed liabilities are payments anticipated during a financial year **in respect of contracts concluded in previous years.**
 - This is due to the fact that defense acquisition is a complicated process involving long gestation periods.
- New schemes
 - New schemes include new projects, which are at various stages of approval and are likely to be implemented in the future.

On the committed liabilities, the Committee has noted that they constitute a significant part of the Capital Head. The inadequate allocation would definitely lead to a 'default situation' on contractual obligations.

- So it has recommended a dedicated fund which should be earmarked for committed liabilities and new schemes, invariably from next Budget onwards

Navy and Air Force

- Both the Navy and the IAF have a situation **where their committed liabilities are more than their share of the capital allocation.**
- To offset this, the Services have been forced to **defer payment of committed liabilities of the Defence Public Sector Undertakings (DPSU)** among other measures.

Miscellaneous Expenditure

The projection under miscellaneous expenditure was 660.94 crores while allotment is 294.00 crores and the standing committee was informed that the carry forward burden

from the previous year is 32.14 crores. Hence, the **net availability is 261.86 crore and the net shortfall is 399.08 crore.**

- The implications of the shortfall in miscellaneous expenditure include the **inability to operationalize the** Defence Space Agency (DSA), Defence Cyber Agency (DCYA) and Armed Forces Special Operations Division (AFSOD).
- Other implications are lower operational readiness of Andaman and Nicobar Command (ANC) ships due to impact on annual refit plans, maintenance of SIGINT (Signal Intelligence) equipment and administration of training institutes and operational units.

29. The real reform

Context

The IBC has started emerging stronger as it delivered on its promise, passed the constitutional muster, earned global recognition and became the preferred option for stakeholders in case of default.

Demystifying the myths surrounding IBC

Myths about recovery:

Most of the myths surround recovery. Consider the following example for quick appreciation.

- M/s. Synergies Dooray was the first company to be resolved under the IBC. It was with the **Board of Industrial and Financial Reconstruction (BIFR)** for over a decade.
- The **realisable value of its assets was Rs 9 crore** when it entered the IBC process. It, however, owed Rs 900 crore to the creditors.
- **How much did IBC recover?** The resolution plan yielded Rs 54 crore for them.
- Some condemned IBC because the resolution plan yielded a meagre 6 per cent of the claims of the creditors, disregarding the fact that they **recovered 600 per cent of the realisable value of the company**, which had been in the sick bed for over a decade.
- If the company was liquidated, assuming no transaction costs, the creditors would have got at best Rs 9 crore – 1 per cent of their claims.

The myth that recovery under IBC is dismal

- Let's examine the myth that the recovery through resolution plans is dismal.

- **Two hundred companies had been rescued till December 2019** through resolution plans.
- **They owed Rs 4 lakh crore to creditors.** However, the realisable value of the assets available with them, when they entered the IBC process, was **only Rs 0.8 lakh crore.**
- **The IBC maximises the value of the existing assets,** not of the assets which do not exist. Under the IBC, **the creditors recovered Rs 1.6 lakh crore,** about 200 per cent of the realisable value of these companies.
- **Why creditors had to take a haircut?** Despite the recovery of 200 per cent of the realisable value, the financial creditors had to take a haircut of 57 per cent as compared to their claims. This only reflects the extent of value erosion that had taken place when the companies entered the IBC process.
- **What is the conclusion?** As compared to other options, banks are recovering much better through IBC, as per RBI data.

The myth that IBC is sending companies for liquidation:

-
- **What is the primary objective of IBC:** Recovery is incidental under the IBC. Its primary objective is rescuing companies in distress.
- **More number of companies sent for liquidation:** There is a myth that although the IBC process has rescued 200 companies, it has sent 800 companies for liquidation. The number of companies getting into liquidation is thus four times that of the companies being rescued.
- **The context for the numbers:** Numbers, however, to be seen in context. The companies rescued had assets valued at Rs 0.8 lakh crore, while the companies referred for liquidation had assets valued at Rs 0.2 lakh crore when they entered the IBC process.
- **Looking from the value term angle:** In value terms, assets that have been rescued are four times those sent for liquidation. It is important to note that of the companies rescued, one-third were either defunct or under BIFR, and of the companies sent for liquidation, three-fourths were either defunct or under BIFR.

The myth that IBC is resulting in huge job losses

- The next myth is that the IBC is resulting in huge job losses through liquidation. It is misconstrued that 600 companies – for which data are available and which have proceeded for liquidation – have assets (and consequently employment) at least equal to the aggregate claim of the creditors – **Rs 4.6 lakh crore.**
- Unfortunately, they have assets on the ground valued only at **Rs 0.2 lakh crore.**
 - Take the examples of Minerals Limited and Orchid Healthcare Private Limited, which have been completely liquidated. **They owed Rs 8,163 crore, while they had absolutely no assets and employment.**

- What matters in this context is the assets a company has or the employment it provides – not how much it owes to creditors.
- The IBC process would release the idle or under-utilised assets valued at Rs 0.2 lakh crore, which would have dissipated with time, for business and employment.
- One also needs to consider the jobs saved through the rescue of 80 per cent of the distressed assets, and the job being created by these companies, post-rescue.

What changes IBC has brought?

- **Changed the behaviour of debtors:** A distressed asset has a life cycle. Its value declines with time if the distress is not addressed.
 - The credible threat of the IBC process, that a company may change hands, has changed the behaviour of debtors.
- **Debtors are settling debt at an early stage:** Thousands of debtors are settling defaults at the early stages of the life cycle of a distressed asset.
 - They are settling when the default is imminent, on receipt of a notice for repayment but before filing an application, after filing the application but before its admission, and even after admission of the application.
 - These stages are akin to preventive care, primary care, secondary care, and tertiary care with respect to sickness. Only a few companies, who fail to address the distress in any of these stages, reach the liquidation stage.
- **Value erosion at the liquidation stage:** The value of the company is substantially eroded, and hence some of them would be rescued, while others are liquidated.
 - The recovery may be low at this stage, but in the early stages of distress, it is much higher – primarily because of the IBC.
 - **The percentage of companies or distressed assets getting into liquidation is insignificant.**
 - Stakeholders should increasingly address the distress in the early stages and the best use of the IBC would be not using it all.

Conclusion

Stakeholders who understand business and have the backing of sophisticated professionals are using IBC with open eyes after evaluating all options. There is no reason to doubt their commercial wisdom. The 25,000 applications filed so far under

30. AT-1 Bonds

Why in News

- Recently, the **Reserve Bank of India (RBI)** has made a proposal to write-down Additional Tier-1 (AT-1) bonds as part of the **SBI-led restructuring package for Yes Bank.**

Key Points

- AT-1 bonds are a type of **unsecured, perpetual bonds** that banks issue to shore up their core capital base to meet the **Basel-III norms**.
- There are **two routes** through which these bonds can be acquired:
 - **Initial private placement offers** of AT-1 bonds by banks seeking to raise money.
 - **Secondary market buys** of already-traded AT-1 bonds.
- AT-1 bonds are like any other bonds issued by banks and companies, but pay a **slightly higher rate of interest** compared to other bonds.
- These bonds are also **listed and traded on the exchanges**. So, if an AT-1 bondholder needs money, he can sell it in the secondary market.
- Investors **cannot return these bonds** to the issuing bank and get the money. i.e there is **no put option available** to its holders.
- However, the issuing banks have the **option to recall AT-1 bonds** issued by them (termed call options that allow banks to redeem them after 5 or 10 years).
- Banks issuing AT-1 bonds can skip interest payouts for a particular year or even reduce the bonds' face value.
- AT-1 bonds are **regulated by RBI**. If the RBI feels that a bank needs a rescue, it can simply ask the bank to write off its outstanding AT-1 bonds without consulting its investors.

Basel-III Norms

- It is an international regulatory accord that introduced a set of reforms designed to improve the regulation, supervision and risk management within the banking sector, post 2008 financial crisis.
- Under the Basel-III norms, **banks were asked to maintain a certain minimum level of capital** and not lend all the money they receive from deposits.
- According to Basel-III norms banks' regulatory capital is divided into **Tier 1 and Tier 2**, while **Tier 1 is subdivided into Common Equity Tier-1 (CET-1) and Additional Tier-1 (AT-1) capital**.
- **Common Equity Tier 1 capital** includes equity instruments where returns are linked to the banks' performance and therefore the performance of the share price. They have no maturity.
- **Additional Tier-1 capital** are perpetual bonds which carry a fixed coupon payable annually from past or present profits of the bank.
- They have no maturity, and their dividends can be cancelled at any time.
- Together, CET and AT-1 are called Common Equity. Under Basel III norms, minimum requirement for Common Equity Capital has been defined.

- Tier 2 capital consists of unsecured subordinated debt with an original maturity of at least five years.
- According to the Basel norms, if minimum Tier-1 capital falls below 6%, it allows for a write-off of these bonds.

RBI's Regulations Over Banks

- In a situation where a bank faces severe losses leading to erosion of regulatory capital, the **RBI can decide** if the bank has reached a situation wherein it is no longer viable.
- The RBI can then activate a **Point of Non-Viability Trigger (PONV)** and **assume executive powers of the bank**.
- By doing so, the RBI can do whatever is required to get the bank on track, including **superseding the existing management, forcing the bank to raise additional capital and so on**.
- However, activating PONV is followed by a write down of the AT-1 bonds, as **determined by the RBI through the Banking Regulation Act, 1949**.

31. Why are oil prices crashing? (GS-3)

Context:

Oil prices saw their biggest single-day crash in almost 30 years, throwing global equity markets into turmoil.

- The price of a barrel of Brent crude closed down 24% after a price war was initiated between Saudi Arabia and Russia, two of the world's largest oil producers.

What happened to the OPEC-Plus alliance?

- After 2014 "glut" diplomacy which brought down prices below \$30 a barrel, Saudi Arabia and Russia came together to cut output and steady prices.
- Known as the "OPEC Plus" arrangement (Russia is not a member of the Organisation of Petroleum Exporting Countries, or OPEC), this alliance kept production lower and pumped up the prices.
- The OPEC-Plus cooperation collapsed recently, after Russia rejected a Saudi request to effect more cuts in output given the fall in demand owing to the economic impact of the coronavirus outbreak.
- The exiting output reduction deal is set to expire in March 2020.
- The Russian and Saudi sides have said they are no longer constrained by the deal and are free to ramp up production.
 - Saudi Arabia's oil giant Aramco announced that it would increase output from 9.7 million barrels a day now to 12.3 million barrels a day in April.

- Aramco also offered a discount to its variety of crude, targeting Russian markets in Asia and Europe.

The fear of excessive supply at a time of slowing demand (supply and demand shock) rattled the markets, crashing prices.

What does Saudi Arabia want?

- As it was clear that Russia was not ready to cut its output further, the Saudis moved to the attack mode.
- The plan is to flood the markets with Saudi oil and depress the prices, which would hurt all oil exporters.
- Riyadh may have multiple targets.
 - One is to exert pressure on Russia and make it come back to the negotiation table. And if both sides agree to a new deal, they can reverse the decision to ramp up production and collectively take steps to pump up prices.
 - Second, if the Russians do not blink, the plan is to capture market share from Russia with discounts.
 - Third, bleed the U.S. shale oil producers who could not sustain production at depressed prices.

In a way, Crown Prince Mohamed bin Salman, the de facto ruler of the kingdom, is trying to take on both Russia and U.S. shale oil companies with a single move.

- The question is whether Saudi Arabia could sustain the price war for a longer term.
- Roughly 90% of Saudi budget revenues are coming from the petroleum sector.
- Prolonged depressed prices will leave a bigger hole in the Saudi budget, complicating further the Crown Prince's economic reform and diversification agenda.

What's Russia's plan?

- Though Russia had been cooperating with OPEC for three years, there's a growing opinion in Moscow that the output cut was hurting Russian energy companies.
- Russian companies also want to increase the output and gain more market share.
- Furthermore, there's a convergence of interests between Saudi Arabia and Russia in hurting the U.S. shale oil companies, which are flooding markets with shale oil and challenging the supremacy of traditional oil producers in determining the prices.
- Russia is in a relatively stronger economic position than Saudi Arabia.
 - Oil now accounts for less than a third of its budget revenue.

- The country has also built a war chest of \$435 billion in foreign exchange reserves.

Russian President Vladimir Putin may be in for a long game – to weaken both the U.S. shale oil industry and the OPEC’s clout in the market.

32. Corona, crude and credit

Context

Amid the gathering global crisis, its time India minds its own house.

Panic and dislocation in Global markets

- **Panic at the level of the 2008 crisis:** Global markets haven’t witnessed such panic and dislocation since the global financial crisis of 2008.
- Global equity markets have collapsed, the US’s 10-year bond is at its lowest level ever, and crude prices underwent their largest single-day fall in 30 years.
- **Interaction of three global shocks:** The market mayhem is the upshot of three global shocks interacting with each other.

What are the three global shocks?

- **Negative demand shock due to Coronavirus:** A negative demand shock around the world. As the coronavirus proliferates globally, households and businesses are understandably becoming risk-averse, and the consequent “social distancing” is expected to exert significant **demand destruction** around the world.
- **Negative supply shock emanating from China:** The widespread industrial closures in China on the back of the COVID-19 outbreak will impact imports and supply chains in other countries, and thereby constitute an adverse supply shock for the rest of the world.
- **The magnitude of the shock:** The 20-point drop in manufacturing output in the February PMI and the 17 per cent contraction in Chinese exports across January and February, suggests that the shock was large and immediate.
- **Supply shock likely to fade:** That said, with the virus, gradually being contained in China, this supply shock is likely to fade even as the demand shock in the rest of the world widens and deepens.
- **Positive oil supply shock:** The failure of oil producers to agree on production cuts has led to a price war with production increases on the anvil.
- Cumulatively, crude prices are down almost 50 per cent – about \$30/barrel – since January.

- A positive supply shock, which even adjusting for the concentrated stress in the oil sector, is growth-additive for the world and particularly for India.
- **India specific shock:** There is a fourth India-specific force at play. The resolution and reconstruction of YES Bank was inevitable, but, at least temporarily, it is likely to result in a “flight to quality” in India’s financial sector, with resources moving from the financial periphery to the core.
- **Banks and NBFC may face difficulty in mobilising resources:** To the extent that the periphery – smaller private banks and non-bank financial companies – will find it harder to mobilise resources, financial sector risk aversion could rise again.

Implications for India’s macroeconomic stability

- **Significant negative impact due to export:** India is a much more open economy than is widely believed with exports constituting almost 20 per cent of GDP. Therefore, the impact of the demand destruction around the world will not be trivial.
- **40 bps decrease in the growth:** If global growth is marked down by 100 basis points in 2020, which increasingly appears to be the case, we estimate that this would shave off about 40 bps from India’s growth through the export channel alone.
- The cumulative drag to growth from exports and tourism would be a meaningful 60-70 bps.
- **Positive impact due to oil price shock:** The near \$30/barrel decline since January constitutes a large positive terms of trade shock for India – equivalent to **about 1.3 per cent of GDP** even accounting for reduced remittances from the Middle East.
- **Meaningful mitigant:** If oil prices remain at this level for long, it would constitute a meaningful mitigant to India’s macro headwinds, boosting activity, dampening prices, creating fiscal space and reducing external imbalances.
- **Offsetting the negative impact of trade and tourism:** Every \$10 reduction in crude prices, boosts growths by about 20-25 bps.
- Therefore, the \$30 decline in crude, if it holds, should boost growth by about 60-70 bps, thereby largely offsetting the negative hit to growth from external trade and tourism.
- **Space for monetary easing:** Furthermore, crude at \$35-40, along with the global demand destruction is expected to generate large disinflationary forces, opening up space for monetary easing.
- **CAD would disappear:** Finally, India’s current account deficit would virtually disappear, for the first time since 2003-04.

The growth offset conditioned on coronavirus spread

- **The assumption in the offset:** The above-mentioned growth offset, however, assumes that the coronavirus does not spread within India.
- If India witnessed a rapid domestic proliferation, heightened risk aversion by economic agents **could meaningfully hurt domestic demand.**

- **A thought experiment on the impact on the economy:** Discretionary services constitute about 35 per cent of GDP and have been growing at 8 per cent a year.
- If that growth rate were to halve, that alone would deduct 140 bps from growth, and swamp any growth tailwinds from lower oil prices.
- Furthermore, a “sudden stop” of demand to certain sectors may necessitate fiscal/liquidity support to ensure these don’t magnify into more disruptive credit events for the financial sector.
- **The best antidote to prolonged growth hit:** The best antidote would be to aggressively contain the virus domestically, as authorities appear to be doing.
- The experience from other countries suggests aggressive containment early in the process (isolation, quarantines, contact tracings, cancelled gatherings) reduces the growth rate of the virus from exponential to linear.
- **Macroeconomic outlook:** The key to India’s macro outlook is whether the crude price decline can sustain and whether India can avoid a sharp domestic proliferation of COVID-19.

Way forward

- **Pass the oil windfall to the public:** Given current fiscal pressures, it’s tempting to advocate that the public sector appropriate much of the windfall. But with consumption under such pressure, there’s a strong case to pass this on to households.
- A sharp cut in domestic fuel prices will boost household purchasing power and aggregate demand thereby creating contemporaneous counter-cyclical pressures.
- **Stick to the asset sale plan:** While the turbulence in equity markets could understandably delay the government’s asset sale programme, it should not be allowed to derail it, given the criticality of asset sales to this year’s fiscal math.
- Absorbing all the oil windfall through higher taxes as a substitute for asset sales would be a suboptimal mix.
- **Continue with the reforms:** The salutary effects of falling crude prices – which would boost India’s macros relative to other emerging markets – should not mask the imperative to continue with reforms, particularly **recognising and resolving any further financial sector stress proactively.**

Conclusion

Global markets are witnessing their most acute volatility since 2008. All we can do is mind our own house amidst the gathering global storm.

33.Finding cure for COVID-19

Scientists across the world are trying to develop a line of treatment and a possible vaccine for COVID-19. However, with the most optimistic timelines we don't see a line of treatment or vaccine arriving before next year.

Genome sequencing of Coronavirus

- A global effort is on to collect and analyse the genetic composition of the new virus, which would be key to developing a cure and a vaccine.
- Genome sequence is the unique code of genetic material of any organism, and determines the characteristic of any organism.
- Whole genome sequencing is the process of determining the complete DNA sequence of an organism's genome at a single time.
- The gene composition of novel coronavirus, for instance, is different from that of the influenza virus. Every organism has a unique genome sequence.
- Laboratories in various countries have been isolating and sharing the genome sequences of the virus on an international platform.

Why are so many genome sequences being isolated?

- When viruses multiply, or reproduce, there is a copying mechanism that transfers the gene information to the next generation.
- However, no copying mechanism is perfect. When the virus multiplies, there will be small changes, which are called mutations.
- These mutations accumulate over time, and after prolonged periods, are responsible for evolution into new organisms.
- Within a single reproduction, the changes are extremely minor. More than 95 per cent of the gene structure remains the same.

How it helps scientists?

- However, the small changes that occur are crucial to understanding the nature and behaviour of the organism.
- In this case, for example, the small changes could provide scientists with information about the origin, transmission, and impact of the virus on the patient.
- It could also hold clues to the differing effects the virus could have on patients with different health parameters.

How many genome sequences are required?

- India has far fewer positive cases compared to China, South Korea, Iran, Italy, or even the US.
- Patients who have been infected with the virus in similar conditions are unlikely to show any significant changes in the genome sequences.
- Patients with existing medical conditions could be other candidates from where genome sequences of this virus could be isolated.
- This could help scientists to look for clues to possible impact of virus amidst those existing medical conditions.

Currently, what is the most effective medication?

- As of now, there is none such. Right now, drugs are being repurposed, meaning old drugs for similar diseases are being checked for their efficacy against COVID-19.
- These drugs, if they work, will require clinical trials, and then can be made widely available for people.
- In most cases, symptomatic treatment for fever, body ache, and cough will be sufficient. More severe cases will require oxygen and respiratory support.

34.Sahyadri Megha: New Paddy Variety

Why in News

The University of Agricultural and Horticultural Sciences (UAHS), Shivamogga (Karnataka), has developed a new variety of paddy, 'Sahyadri Megha'.

- The University has developed the new variety to prevent decline in the area under paddy cultivation.

Reasons Behind Developing the New Variety

- Paddy growers are switching over to commercial crops like arecanut, ginger and rubber for lucrative returns.
 - The area under paddy that was around 1.5 lakh hectares in Shivamogga district in 1990, has come down to around 1.05 lakh hectares.
- The '**Jyothi**' variety which is widely cultivated in the command areas of the Bhadra and the Tunga reservoirs and in semi-arid areas in Sorab, Shikaripur, Hanagal and Sirsi taluks in Karnataka has become vulnerable to blast disease and other infestations.
- Demand by customers in urban areas for red rice which is rich in fibre and protein.
 - **The red variety** gets its rich colour from an antioxidant called **anthocyanins**, which are also found in deep purple or reddish fruits and vegetables. The compound is believed to have properties that can reduce

inflammation, allergy, prevent risks of cancer and help in weight management.

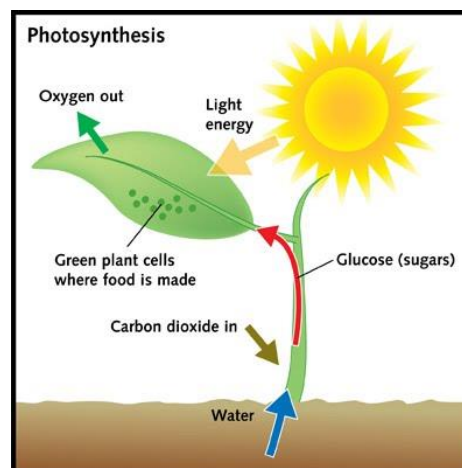
Sahyadri Megha

- Sahyadri Megha is a red variety of paddy that is **resistant to blast disease and rich in nutrients**.
- It was developed under the **hybridization breeding method** by cross-breeding the best among the '**Jyothi**' variety with that of '**Akkalu**', a disease-resistant and protein-rich paddy variety.
- The new variety will be notified under the **Indian Seed Act 1966** shortly after which it will become part of the seed chain.
- **Key Attributes**
 - The **protein content in it is 12.48%**, higher than the other red rice varieties grown.
 - The **yield per hectare** from 'SahyadriMegha' is around 65 quintals, substantially higher than other red paddy varieties.
 - It is a **medium-term paddy** that can be grown when there is a delay in the onset of monsoon. It can be **harvested after 120 days of sowing**.

Blast Disease

- It is caused by fungus *Pyricularia grisea* (*P. oryzae*).
- Also known as rotten neck or rice fever.
- First recorded in India during 1918.
- Expected grain loss : 70 to 80%.

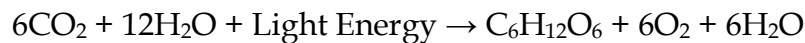
35. How plants dissipate excess sunlight as heat?



Photosynthesis is a life-sustaining process by which plants store solar energy as sugar molecules. However if sunlight is in excess it can lead to leaves being dehydrated and damaged.

What is Photosynthesis?

- Photosynthesis is the process used by plants, algae and certain bacteria to harness energy from sunlight and turn it into chemical energy.
- There are two types of photosynthetic processes: oxygenic photosynthesis and anoxygenic photosynthesis.
- The general principles of anoxygenic and oxygenic photosynthesis are very similar, but oxygenic photosynthesis is the most common and is seen in plants, algae and cyanobacteria.
- During oxygenic photosynthesis, light energy transfers electrons from water (H₂O) to carbon dioxide (CO₂), to produce carbohydrates.
- Ultimately, oxygen is produced along with carbohydrates. Oxygenic photosynthesis is written as follows:



Here, six molecules of carbon dioxide (CO₂) combine with 12 molecules of water (H₂O) using light energy. The end result is the formation of a single carbohydrate molecule (C₆H₁₂O₆, or glucose) along with six molecules each of breathable oxygen and water.

How do plants dissipate heat?

- To prevent such damage, plants dissipate extra light as heat.
- While this was known there has been a debate over the past several decades over how plants actually do so.
- Now for the first time researchers have directly observed one of the possible mechanisms through which plants dissipate extra sunlight.
- The new research has been able to determine—by using a highly sensitive type of spectroscopy—that excess energy is transferred from the pigment chlorophyll, which gives leaves their green colour, to other pigments called carotenoids.
- The carotenoids then release the energy as heat. After the carotenoids accept excess energy, most of it is released as heat, thus preventing damage to the cells.

Why does plant dissipate light?

- During photosynthesis, light-harvesting complexes play two seemingly contradictory roles.

- They absorb energy to drive water-splitting and photosynthesis, but at the same time, when there's too much energy, they have to also be able to get rid of it.
- Plants quickly adapt to changes in sunlight intensity. Even in very sunny conditions, only 30 per cent available sunlight is converted into sugar, and the rest is released as heat.
- The excess energy, if not released, leads to the creation of free radicals that can damage proteins and other important cellular molecules.

Significance of the research

- So far, it had been difficult to observe the heat dissipation phenomenon, given that it occurs on a very fast time scale, in femtoseconds or quadrillionths of a second.
- Using the new technique, researchers could observe that chlorophylls absorb red light and carotenoids absorb blue and green light, thus being able to monitor energy transfer.

36. Impact of COVID-19 Outbreak

Why in News

Stock markets in India crashed on 9th March, 2020 as **Sensex** and **Nifty** indices saw their biggest ever fall in absolute terms.

- The Sensex dropped 1,942 points or 5.17% to 35,635 and the Nifty dropped 538 points to 10,451, wiping out as much as Rs 6.8 lakh crore of investor wealth.
- According to the **Securities and Exchange Board of India (SEBI)**, volatility in stock market is due to **perceived economic fallout from COVID-19** and **steep fall in global crude prices**.
 - Oil prices also crashed on the same day after the collapse of the Organization of the Petroleum Exporting Countries (OPEC) supply cut agreement with Russia.
 - The price of Brent crude oil fell almost 30% to \$31.14 a barrel, its biggest single fall since the start of the first Gulf war (1990-91).

Sensex

- Sensex, otherwise known as the S&P BSE Sensex index, is the **benchmark index of the Bombay Stock Exchange (BSE)** in India.
- It comprises **30** of the largest and most actively-traded stocks on the BSE, providing an accurate gauge of India's economy. The index's composition is reviewed in June and December each year.
- Initially compiled in 1986, the Sensex is the **oldest stock index in India**.

Nifty

- Nifty is primarily an **equity benchmark index** which was introduced in **1996** by the **National Stock Exchange**.
- The term Nifty is derived from the combination National and Fifty as Nifty consists of **50 actively traded stocks**. Nifty is an abbreviation of National Stock Exchange Fifty.

Perceived Economic Fallout From COVID-19

- **Fall in economic activities globally:** Falling Chinese exports, faster than expected pace of shrinking of the Japanese economy, increasing cases of Coronavirus outside China, and disruption of global supply chains, have contributed to the panic in the financial markets worldwide.
- **Investment Outflow:** Selling of securities by foreign institutional investors have contributed to the sharp selloff in Indian markets.
 - A sell-off occurs when a large volume of securities are sold in a short period of time. This leads to decline in the price of the security.
 - **Foreign Institutional Investors (FIIs)** refer to outside companies investing in the financial markets of India.
- **Yes Bank Crisis:** The **Yes Bank crisis** has raised concerns over the stability of the country's banking system, adding to the woes of domestic investors.

Fall in Global Crude Prices

- Top crude oil producers Saudi Arabia and Russia have begun a price war. Saudi Arabia slashed its oil prices after it failed to convince Russia to support sharp crude oil production cuts.
- A three-year supply pact between members of the **Organization of the Petroleum Exporting Countries (OPEC)** and Russia collapsed after Russia refused to support deeper oil cuts to cope with the substantial fall in demand caused by the impact of coronavirus on travel and economic activity.
- **Immediate Impact**
 - In the Sensex pack, the Oil and Natural Gas Corporation Limited (ONGC) was the worst performer, losing over 16%.
 - State-owned Oil Marketing Companies (OMCs) have reduced the prices of sensitive petroleum products such as petrol and diesel by 30 paise and 25 paise a litre respectively across major cities.
- **Long-Term Impact**
 - The fall in the prices of crude oil goes well for the Indian economy as **India imports more than 80% of its oil requirements**.

- The savings on oil imports is estimated to be around US \$30 billion in the Financial Year 2021 if there is no significant uptick in global demand. This will help in arresting the rising inflation in the country.
- However, according to some experts, very low prices imply less growth for emerging countries like India, thus impacting negatively.

Government's Move to Boost Agri-exports

- The central government has identified **21 agricultural products**, including honey, potatoes, grapes, soya beans and groundnuts, in which Indian exports could benefit from trade restrictions against Chinese goods.
 - Some countries have imposed restrictions on Chinese goods in response to the outbreak of COVID-19.
- The total value of China's global exports of these products amounted to \$5488.6 million in 2018. India exported \$4,445.9 million worth of these commodities in the same period and could now have a chance to grab part of China's market share.

37. Don't blame it on NSO

Context

The latest GDP data witnessed significant revisions that have gone largely unnoticed.

The GDP data revision and its criticism

- **Revisions an act of due diligence:** In the last few years there has been a lot of noise regarding the data revisions.
 - **The need for closer examination:** While part of revision requires closer examination, we must be fair to our statistical system as such revisions are, in large part, due diligence and happen globally.
- **Schedule of NSO estimates**
 - **First estimate:** The NSO releases the first estimates of any fiscal year in January.
 - Revises the January's first estimates in **February**.
 - And then again in **May**.
 - **Simultaneous revision in February:** Simultaneously, it revises the previous year estimates in February, alongside the February data release.
- **Suspicion of statistically protecting the 5% growth:** The primary criticism, with the current year's fiscal data, is that the **revisions in February for 2019-20** and

the **4th revision in 2018-19** are almost identical, implying that the sanctity of 5 per cent growth was statistically protected.

Examining the criticism purely on the data

- **Precedence of 1st and 2nd quarter revision:** There is precedence to the first and second quarter revisions for the current financial year that happen in February.
 - For example, while in the current fiscal, the cumulative downward revision was close to Rs 30,000 crore.
 - In FY19, there was even a greater upward revision of roughly Rs 86,000 crore in February.
- **Is there precedence of such large first-time revisions?** Yes, there has been since 2014-15. In 2018-19, the first-time data was revised by a sharp Rs 1.43 lakh crore, while in 2017-18, it was revised by an even larger Rs 1.69 lakh crore.
- **Revision in the same direction:** The simultaneous revisions are mostly in the same direction, though different in magnitude, and hence it is unfair to say that the 2018-19 data was revised downwards to protect the 2019-20 numbers.

What was the problem?

- **Uncertainty:** The problem has been that the **global and domestic uncertainties** in 2017-18 and 2018-19 have been so swift that it has been virtually impossible to predict the outcome initially.
 - While in 2017-18, the final estimates were progressively higher.
 - In 2018-19, while the interim estimates were higher, they were drastically scaled-down later as the impact of the NBFC crisis began to unfold.
- **The US example:** The US Fed had also missed the possibility of the US economy bouncing back in 2018 on the back of tax cuts when in 2015 it had projected the economy to expand by only 2 per cent, only to change it to 3 per cent in 2018 (almost at par with scale of revisions in India).

Why such unconditional biases arise?

- **Asymmetric loss function:** It is common for such unconditional bias to arise due to the fact that the **statistical reporting agency produces releases according to an asymmetric loss function.**
 - For example, there may be a preference for an optimistic/pessimistic release in the first stage, followed by a more pessimistic/optimistic one in the later stage.
- **Cost factor:** Intuitively, one might argue that the cost of a downward readjustment of the preliminary data is higher than the cost of an upward adjustment.

- This asymmetric loss function is not so relevant at the reporting stage but at the forecasting stage.
- **Interpreting the data revision:** A statistical reporting agency like the NSO **simply does not have all the data at hand and has to forecast the values of the yet to be collecting data.**
 - It is at that moment that the **asymmetric loss function** comes into play.
 - So, we must be careful about interpreting data revisions by the NSO by attributing ulterior motives as we more often tend to do.

India lagging in the use of data analysis

- Unlike countries across the world, India is still significantly lagging in its use of data analysis.
 - **Methodologies based on thin surveys:** Some of the current methodologies of data collection is based mostly on thin surveys.
 - **Not supported by the data in public domain:** It is also not supported by data available in the public domain that are more **comprehensive, less biased and real-time in nature, based on digital footprints.**
 - The end result is that we end up publishing survey results that are misleading.

Way forward

- **Development of big data and AI bases ecosystem:** We must develop an ecosystem that is high quality, timely and accessible.
 - **Big data and artificial intelligence are key elements in such a process.**
 - Big data helps acquire real-time information at a granular level and makes data more accessible, scalable and fine-tuned.
- **Use of payment data:** The use of payments data can also help track economic activity, as is being done in Italy.
 - Different aggregates of the payment system in Italy, jointly with other indicators, are usually adopted in GDP forecasting and can provide additional information content.

Conclusion

To be fair to both the RBI and the NSO, the **volatility of oil prices and structural changes** in the economy make the forecasting of inflation and GDP a difficult job indeed. However, we should supplement our existing measurement practices with “big data” to make our statistical system more comprehensive and robust.

38. The cost of a yes to a bank rescue act

Context:

- RBI's "Yes Bank Ltd Reconstruction Scheme, 2020" announced in the light of the Yes Bank crisis.

Details:

- Given the potential impact of the Yes Bank crisis, the government and RBI resorted to imposing a moratorium on the bank's activities and capped withdrawals by depositors at ₹50,000.
- As part of the RBI's "Yes Bank Ltd Reconstruction Scheme, 2020" the government has called upon the **State Bank of India (SBI), to lead the rescue efforts of the Yes Bank.**

Concerns regarding the Yes Bank crisis:

Effect on stakeholders:

- There are many depositors both big and small who have their deposits in Yes Bank. They would lose hugely if Yes Bank is allowed to collapse, given the fact that the account holders are **insured for up to Rs 5 lakh only by the Deposit Insurance and Credit Guarantee Corporation (DICGC).**
- **Firms and agents dependent on Yes Bank** for credit to keep them in business may find their **operations disrupted** and new credit lines difficult to find.
- Though the scheme ensures that the employees would retain their enumeration and service conditions for a year, the employees may lose their jobs in the future if there are efforts to cut down on the operating costs of the bank.

Impact on the larger economy:

- The Yes Bank crisis can have a **profound impact on the larger economy.** Similar observations have also been made by SBI chairman Rajnish Kumar claiming that Yes Bank cannot be allowed to fail since that would have consequences for the Indian economy.

Decreased trust in the financial system:

- The investors choose the private lenders like Yes Bank, mainly attracted by the higher interest rate offered by them. The collapse of Yes Bank would most likely **set off a chain of withdrawals from other private banks** as well as some weaker public banks. This could pose a **systemic threat to the country's financial system.**

- There would also be adverse **spin-off effects on investors in bonds and instruments** issued by Yes Bank, triggering turmoil in other parts of the financial system.

Spin-off effects:

- Firms and agents dependent on Yes Bank for credit to keep them in business may find their operations disrupted and new credit lines difficult to find. That could lead to their **defaulting on debt** they owe other creditors. This could **increase the overall NPA in the financial systems**.
- Ancillary businesses downstream may collapse or turn sick, leading to **job losses and loss of livelihoods**.
- Assets and machinery may lie idle and the ripple effect may grind other well-performing businesses to a halt as the cycle of debtors and creditors freeze.

Flawed approach:

- Preliminary enquiry point to quid pro quo payments to family-controlled shell companies of the Bank's founder, in return for large loans to stressed entities. However, there is **more to the crisis than just corruption**.
- The government has been **promoting a credit splurge strategy to drive growth**.
- With the intent to increase investment rates, large loans to even shaky corporates are being given out. Though it helps raise investment levels, but mostly in financially unviable projects.
- Such an environment provided fertile ground for rogue bankers and fraud borrowers, resulting in **large non-performing assets in the financial system**.

Ineffectiveness of regulatory framework:

- In spite of the **many laws and regulations** imposed by the Companies Act and those stipulated by the Securities and Exchange Board of India and compliance requirements under the oversight of the Reserve Bank of India (RBI), Yes bank failed.
- This calls into question the effectiveness of the present regulatory framework.

The fallacy of Independent director provision:

- There has been an observed **pattern in the failure of promoter-run firms** like Yes Bank given the inherent flaws in the framework.
 - Listed companies are run by Boards. The CEO and Managing Director run the company affairs and are answerable to the Board. The issue is the fact that the provision of the **Board of Directors has been operating like a toothless entity**.

- The Board has '**independent directors**' as per the statutory requirements of the companies act and regulations of SEBI.
- These independent directors appointed by the promoter or the controlling shareholders, **rarely perform their function** of questioning the decisions of the CEO, upholding probity, and protecting the minority shareholders' rights.
- All impropriety on the parts of the adventurous promoters and CEOs is forgiven by the public, the banks and authorities most of the times given that they can sustain the growth of the company.

Concerns with the resolution plan:

Timing of the intervention:

- There have been reports of governance failures, accounting irregularities and balance sheet weaknesses at Yes Bank for more than two years. Given the fact that **Yes Bank had not been placed under the Prompt Corrective Framework of the RBI** seems to suggest that the current intervention has been much delayed. It is because of the delay that escalated intervention is unavoidable.

Effectiveness of the intervention:

- There are doubts regarding the effectiveness of such a resolution. There are risks associated with the restructuring plan.

Estimates on the necessary capital:

- The estimations from SBI places notes that Yes Bank would need about ₹20,000 crores for its reconstruction plan.
- However, given the fact that Yes bank had ramped up it's lending in recent years and had **large exposure to bankrupt** or heavily indebted corporate groups, casts doubts over the adequacy over the ₹20,000 crore estimate.

Provisions regarding AT1 bonds:

- The scheme had exclusive provisions regarding the additional tier 1 bonds (AT1 bonds) issued by the bank. The scheme stated that the AT1 bonds totalling close to ₹11,000 crores, would be written down permanently, as part of the restructuring plan.
 - AT1 bonds offer investors a higher return because of the higher risk associated with them, including the possibility of being written down when a bank's equity base is under threat.
- Investors in the AT1 bonds are likely to **approach the courts, hampering the restructuring process.**

Lack of confidence:

- A major aspect of the restructuring plan is based on the following principles.
 - Yes Bank will not be merged with the SBI, but become a standalone subsidiary of SBI. SBI's equity could be sold off in future date if that proves feasible.
 - Investors other than the SBI must play an important role in the revival of Yes Bank, since the equity of the bank is expected to rise, with the SBI holding only 49% of the total.
- Yes Bank's troubles with non-performing assets are an indication of the **troubles in the borrower industries** as well, ranging from real estate to power and non-banking financial companies. With the **economy facing a persistent slowdown**, the prospects of banks' burden of bad loans easing soon are limited.
- Given the gloomy economic climate, investors may not be willing to outlay large sums on equity of Yes Bank. **Lack of confidence and the absence of investor support may render the whole exercise ineffective.**
- If the RBI's scheme does not work and the investment is not recovered, the SBI's stakeholders which consist of the government and taxpayers will have to bear the burden.

Way forward:

Legislative and administrative changes:

- Given the fact that boards are responsible to the shareholders and also ultimately accountable to the statutory authorities and the fact that the independent directors serve at the discretion and pleasure of the promoter-CEO, one cannot expect the directors to remain truly 'independent' in their duties.
- **Necessary changes in the Companies Act and rules issued by RBI and SEBI** must address these issues.

Improving regulatory checks:

- The market regulators, the **RBI and other statutory authorities must consider reviewing the guidelines and rules and incorporating necessary changes.**
- Given the pattern in the failure of promoter-driven entities, the regulators need to focus on addressing related issues.
- There is a need for reforms to **strengthen the autonomy of various regulatory institutions.**

Punish corporate transgressions:

- Though corporate transgressions happen in the West too, the regulators do not spare the promoter, despite his or her credentials.

- Elon Musk was recently penalized for issues related to insider trading. Bill Gates or Mark Zuckerberg, have often been reined in, investigated and heavily fined.
- India needs to learn from these examples and **improve regulatory checks and balances.**

Protecting the interests of the employees and customers:

- Regulators through the restructuring plan should not punish the company for the sins of its promoters. **All efforts must be made to save the company and jobs.**

39. Oil's rout

Context:

- Global oil prices witnessed the **biggest fall in a day, since the 1991 Gulf war.**

Background:

Coronavirus outbreak:

- The global outbreak of the coronavirus is likely to have an **adverse economic impact.**
- The latest report estimates more than 110,000 people having been infected in 105 countries and territories and 3,800 have died, with China reporting the majority of these cases.
- China's efforts to restrict the coronavirus outbreak has **disrupted China's economy and curtailed shipments to the biggest oil importer.** China, a major importer, has cut its imports by a third from Saudi Arabia, its biggest supplier.
- The U.S. has also reported an increasing number of cases and given the dependence of the U.S. economy on China's demand and supply markets, the **S. economy is also bound to be affected by the coronavirus outbreak.**
- With the two largest economies of the world likely to see depressed growth in the coming times, the global oil demand is set to contract. The **International Energy Agency has reported that oil demand is set to contract in 2020 for the first time since 2009.** Similar observations have been made by major banks which have cut their demand growth forecasts.

OPEC+ supply agreement:

- **The Organization of the Petroleum Exporting Countries,** along with several other producers, have cooperated for three years to restrain oil supply in the global markets post the 2014 price war. **The three-year supply pact to curb production is to expire at the end of March 2020.**

- Saudi Arabia, Russia and other major producers last battled for market share in 2014 in a bid to put a squeeze on production from the United States, which had not joined any output limiting pacts.
- The global outbreak of the coronavirus prompted OPEC to seek additional output cuts.
- The supply pact between members of the Organization of the Petroleum Exporting Countries, and Russia, often referred to as the **OPEC+ talks, fell apart** recently, after Russia refused to support deeper oil cuts to cope with the outbreak of coronavirus.
- After failing to agree to cut supply, **Saudi Arabia and Russia have pledged instead to ramp up production**, which could quickly flood global markets with oil at a time when the demand has already weakened substantially due to coronavirus. Other OPEC members have responded by removing all limits on their production, prompting **fear of a supply hike** in a market already awash with crude.
- **Saudi Arabia has cut its Official Selling Price (OSP's) for crude starting a price war.**
- The oil market is set to witness the **rare conjunction of demand and supply shock**. This seems to suggest that the present crisis for the oil market would be more serious than the 2014 price war.

Details:

- The collapse of an OPEC+ supply agreement has resulted in **panic throughout the energy sector**.
- The market's reaction to the recent developments has been drastic, with **crude futures plunging** by nearly 20%. **Energy stocks have collapsed** as shale producers have drastically cut future expenditures in anticipation of an uncertain demand in future.
- The price war among the producers has resulted in the **Oil prices crashing by almost a third to \$30 a barrel**, in the process suffering their biggest decrease in a day since the 1991 Gulf War.
- Analysts are **expecting a further dip in prices** and are estimating a floor price of \$20 a barrel for crude oil.

Significance:

Fall in Petrol and diesel prices:

- The prices of petrol and diesel have come down by about ₹5 a litre each in India since January 2020.
- State-owned oil marketing companies (OMCs) have **reduced the prices of petrol and diesel** given the fall in international prices.

- The prices of petrol and diesel are likely to come down further in the coming weeks as **India follows the monthly average pricing of benchmark crude oil.**

Benefit macro-economic parameters:

- The fall in prices is **good news for major consumers like India.**
- The fall in oil prices would be beneficial for **India's macroeconomy**, given the fact that India imports over 83% of its oil requirements. This will reduce the oil import bill and hence help **contain current account deficit.**
- The fall in fuel prices will also **bring down headline inflation in the Indian economy**, giving the Reserve Bank of India enough room to cut rates to enhance growth rates.
- The **shares of state-owned oil marketing companies (OMCs) surged** in the light of falling crude oil prices.

Opportunity to stock:

- With Saudi Arabia drastically cutting its prices for term contract buyers, and other West Asia producers expected to cut their April crude OSPs following the trend set by Saudi Arabia, **India's HPCL and BPCL, plan to maximize crude buying.**
- With Middle Eastern crude prices showing definite signs of softening, India will have to utilize this opportunity to the maximum extent possible by **increasing its stocking.**

Concerns:

Stock market sentiment:

- **S.'s main stock indexes plummeted** and the Dow Jones Industrials crashed 2,000 points, as the slump in oil prices and the rapid spread of the coronavirus amplified fears of a global recession.
- **India's benchmark index, Sensex witnessed its biggest single-day fall in absolute terms** amid a global sell-off in equities. This came on the back of rising concerns over the economic impact of the COVID-19 outbreak and a plunge in crude prices that further fuelled worries about a global slowdown.

Economic impact:

- The fall in prices is **bad news for the big oil companies and the shale oil companies which are highly leveraged.** A collapse of these shale oil producers may **set off defaults in the bond markets**, setting off a non-virtuous spiral starting with the U.S. markets.
- With stock and bond markets already in turmoil, the price war between the producers is only going to **make the markets more volatile.**

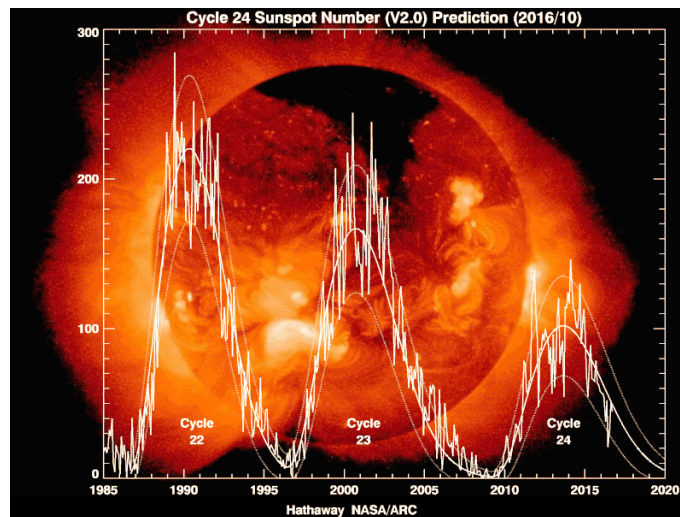
India's disinvestment targets:

- The Government has invited 'Expression of Interest (EoI)' for **selling its entire stake in oil marketing company Bharat Petroleum Corporation Limited (BPCL)** as part of its plan to meet the disinvestment targets.
- The oil price fall will affect the Centre's disinvestment programme as big oil companies, expected to bid for BPCL, may either shy away or **bid much lower than expected** given the high uncertainty in the sector.

Decreased exports:

- The fall in prices may be beneficial to India in the short term, but India will have to deal with a **global slowdown**.
- The fears of a global recession will have an impact on the Indian economy, given the **higher levels of integration** of the two.
- India would have to bear the impact of **reduced merchandise exports due to the slowdown in the developed economies**. Since exports constitute a larger proportion of India's economic growth, the reduced exports will further **pull down the already low growth rates in India**.

40. Explained: Cycle 25/ Solar Cycle

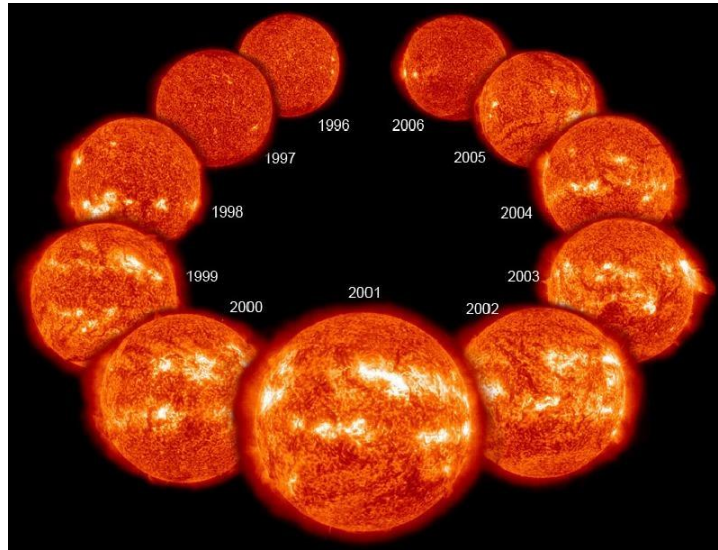


The sunspots identified by researchers from IISER Kolkata herald the start of a new solar cycle called Cycle 25.

What are Sunspots?

- Sunspots are temporary phenomena on the Sun's photosphere that appear as spots darker than the surrounding areas. They are relatively cooler spots on the Sun's surface.
- They are regions of reduced surface temperature caused by concentrations of magnetic field flux that inhibit convection.
- Sunspots usually appear in pairs of opposite magnetic polarity with a leader and a follower.

What is Solar Cycle?



- From our safe distance of about 148 million km, the Sun appears to be sedate and constant. However, huge solar flares and coronal mass ejections spew material from its surface into outer space.
- They originate from sunspots, an important phenomenon that people have been following for hundreds of years. They originate deep within the Sun and become visible when they pop out.
- Their number is not constant but shows a minimum and then rises up to a maximum and then falls again in what is called the solar cycle.
- Every 11 years or so, the Sun's magnetic field completely flips. This means that the Sun's north and south poles switch places. Then it takes about another 11 years for the Sun's north and south poles to flip back again.
- So far, astronomers have documented 24 such cycles, the last one ended in 2019.

How do they occur?

- Given the high temperatures in the Sun, matter exists there in the form of plasma, where the electrons are stripped away from the nuclei.

- The Sun is made of hot ionized plasma whose motions generate magnetic fields in the solar interior by harnessing the energy of the plasma flows.
- This mechanism is known as the solar dynamo mechanism (or magnetohydrodynamic dynamo mechanism).
- Simply stated, it is a process by which kinetic energy of plasma motions is converted to magnetic energy, which generates the magnetised sunspots, giving rise to the solar cycle..
- Because of the nature of the solar dynamo, the part of its magnetic field that gives rise to sunspots reverses direction when it moves from one solar cycle to another.
- This can be inferred by observing when the relative orientation of the sunspot pairs flips.

Features

- The solar cycle affects activity on the surface of the Sun, such as sunspots which are caused by the Sun's magnetic fields. As the magnetic fields change, so does the amount of activity on the Sun's surface.
- One way to track the solar cycle is by counting the number of sunspots.
- The beginning of a solar cycle is a solar minimum, or when the Sun has the least sunspots. Over time, solar activity – and the number of sunspots – increases.
- The middle of the solar cycle is the solar maximum, or when the Sun has the most sunspots. As the cycle ends, it fades back to the solar minimum and then a new cycle begins.
- Giant eruptions on the Sun, such as solar flares and coronal mass ejections, also increase during the solar cycle. These eruptions send powerful bursts of energy and material into space.

Impacts of Solar Cycle

- This activity has effects on Earth. For example, eruptions can cause lights in the sky, called aurora, or impact radio communications. Extreme eruptions can even affect electricity grids on Earth.
- Solar activity can affect satellite electronics and limit their lifetime.
- Radiation can be dangerous for astronauts who do work on the outside of the International Space Station.
- Forecasting of the solar cycle can help scientists protect our radio communications on Earth, and help keep satellites and astronauts safe.

Start of cycle 25

- Following a weakening trend in activity over the last few cycles, there were predictions that the Sun would go silent into a grand minimum in activity, with the disappearance of cycles.

- However, a team from IISER Kolkata has shown that there are signs that cycle 25 has just begun.
- They used the data from the instrument Helioseismic and Magnetic Imager aboard NASA's space-based Solar Dynamics Observatory for their calculations.

Why is this so important to us on earth?

- After all the sunspots look small and are hardly even visible to us. Contrary to this, sunspot activity may be correlated with climate on earth.
- In the period between 1645 and 1715, sun spot activity had come to a halt on the Sun – a phenomenon referred to as the Maunder minimum.
- This coincided with extremely cold weather globally. So sunspots may have a relevance to climate on earth.
- Such links are tenuous, but definitely solar activity affects space weather, which can have an impact on space-based satellites, GPS, power grids and so on.

41. Though hunters lose interest in Red Panda, traps still snare endangered mammal (GS-3)

Context:

- A study by wildlife trade monitoring network, TRAFFIC.

TRAFFIC:

- **TRAFFIC, a wildlife trade monitoring network, is a joint program of the World Wide Fund for Nature (WWF) and the International Union for the Conservation of Nature (IUCN).** It was founded in 1976.
- TRAFFIC is a leading non-governmental organization working globally on the trade of wild animals and plants in the context of both **biodiversity and sustainable development.**
- The organization works to ensure that **trade in wild plants and animals is not a threat to the conservation of nature.** Through research, analysis, guidance and influence, it promotes sustainable wildlife trade (the green stream work) and combats wildlife crime and trafficking (the red stream work).
- The organization's priority is to promote international cooperation to address wildlife trade issues, with particular emphasis on **CITES**, the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Red Panda:

- **The Red Panda (*Ailurus fulgens*)** is a mammal native to the eastern Himalayas and southwestern China.

- It is also sometimes referred to as the lesser panda, **the red bear-cat, and the red cat-bear.**
- The reddish-brown **arboreal mammal** is the only living member of the genus Ailurus. It feeds mainly on bamboo but also eats eggs, birds, and insects.

Range:

- It is **endemic to the temperate forests of the Himalayas.** An estimated 14,500 animals are left in the wild across **Nepal, Bhutan, India, China and Myanmar.**
- India accounts for the second largest population of Red Pandas after China. About 5,000-6,000 red pandas are estimated to be present in the four Indian states of **Arunachal Pradesh, Meghalaya, Sikkim and West Bengal.**
- Red pandas have been reported from 11 districts of Arunachal Pradesh, which is presumed to hold the largest red panda population in the country.

Threats:

- The population of the Red Panda continues to decline due to **habitat loss and fragmentation, poaching, and inbreeding depression.** The animal has been hunted for meat and fur, besides illegal capture for the pet trade.

Conservation status:

- It is listed as **Endangered on the IUCN Red List** and is also listed in **CITES Appendix I.**
- It is listed under **Schedule I of the Indian Wildlife (Protection) Act, 1972,** and has the highest legal protection at par with other threatened species in India.

Details:

Study:

- The findings of the study on wildlife trade by TRAFFIC have been compiled in the report titled "Assessment of illegal trade-related threats to Red Panda in India and selected neighbouring range countries".
- The study considered a **ten-year period** from July 2010 to June 2019 and analyzed poaching and illegal trade of the species.

Findings:

- The study has revealed that the **poaching of the Red Panda has decreased in India and Bhutan.** The researchers found no incidents of poaching or illegal trade of Red Pandas in either India or Bhutan in the study period.
- The study attributes this trend to the **decreasing traditional demand for animal products** among the younger generation of people across the animal's Himalayan habitat. This might be indicative of **the success of awareness campaigns** undertaken in the areas.

- Though there has been a decline in interest for Red Pandas among poachers, worryingly, however, the Red Panda is falling to traps laid for other animals, such as the musk deer and wild pigs.

Way forward:

- Given the fact that the red panda's survival is crucial for the eastern and north-eastern and the eastern Himalayan forests, there is a need for **community-based conservation and protection** for the species as its habitat stretches across remote areas.
- The report recommends **trans-boundary law enforcement co-operation** through the use of multi-government platforms like SAWEN (**South Asia Wildlife Enforcement Network**).

Additional information:

- Red Panda is the **state animal of Sikkim**.

42. Cryptocurrencies, Blockchain and Regulations

Context: SC lifts Ban on virtual currencies that was imposed by RBI

Virtual Currency

- There is no globally accepted definition of what exactly is virtual currency.
- Basically, 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.
- Virtual currency also **includes Cryptocurrencies** that have an extra layer of security, in the form of encryption algorithms

CryptoCurrency

- It is a digital asset designed to work as a medium of exchange that **uses strong cryptography** to control the creation of additional units, to secure financial transactions and verify the transfer of assets

- These transactions are verified by network nodes and recorded in public distributed ledger called **blockchain**
- They are being transferred, stored or traded electronically.
- Thus, Crypto Currencies are type of **unregulated digital money**.
- They are **neither issued by central bank**/public authority, nor is necessarily attached to fiat currency, but is used and accepted among the members of a specific virtual community

Blockchain Technology:

- Block chain is a **decentralised digital ledger**
- It was invented by Satoshi Nakamoto in 2008 for use in the cryptocurrency bitcoin
- Blockchains achieve consensus among distributed nodes, allowing the transfer of digital goods **without the need for centralized authorisation** of transactions.
- Its working can be represented through the below diagram.
- The Internet allows computers to exchange information; Blockchain allows computers to record information. Both use a lot of computers (nodes).
- The technology thus allows transactions to **be simultaneously anonymous and secure, peer-to-peer, instant and frictionless**.

Dinesh Sharma Committee

- It was an inter-disciplinary committee set up in April 2017 by Finance Ministry to look into cryptocurrency legitimacy.
- The committee recommended a **total ban on cryptocurrency** in India

Subhash Chandra Garg committee

- It was formed in Nov 2017 to draft regulations for cryptocurrencies.
- It also recommended **banning** cryptocurrencies in India, citing risks and volatility in prices
- It recommended heavy **penalties of up to Rs 25 crore and a jail term up to 10 years** for anyone who mines, generates, holds, sells, transfers or issues cryptocurrency.

Criticism of Crypto Currencies:

- Highly speculative nature of assessing their value. For ex: the cryptocurrency traded at a peak of \$20,000 in mid-2018 before crashing to \$3,000 by the end of the year.
- It is not backed by any central institution but derives trust from its intricate blockchain ledger system.
- Bitcoins, with their assured anonymity is used in illicit transactions over the “dark web”.

Merits of cryptocurrencies

- Cryptocurrencies have now been **adopted by international trading firms** for use in lending, raising funds for other cryptoprojects
- It facilitates **easier cross-border** payments
- **European Union has not out rightly banned** the instrument but have sought to regulate its functioning.
- The 2019 Bill on Cryptocurrency even proposed the creation of a “**digital rupee**” as official currency.

Arguments made by Petitioners in SC against RBI ban

- The ban **choked** the agencies that sought to provide a platform **to facilitate trading** in cryptocurrencies by cutting them off from banks.
- This had a chilling effect on the fledgling cryptocurrency exchanges industry in India and went against their entrepreneurial right to operate a business enshrined in Article 19(1)(g).
- **Article 19(1)(g)** states that all citizens of the country will have the right to practise any profession, or carry on any occupation or trade and business.

Key Highlights of the Supreme Court Judgement

- The court found the ban did not pass the “**proportionality**” test as mentioned in Article 19(2)
- Besides, RBI **had not considered the availability of alternatives** before issuing the order i.e. achieving the same objective by imposing a less drastic restraint.
- 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 VC exchanges.

Conclusion

It is now imperative on authorities to find the right “regulatory balance” on cryptocurrencies, task that is easier thought than done, considering their ever-evolving nature due to technological innovation.

Connecting the dots

- Applications of Block Chain Technology in other sectors

43. The Sun brings out a fresh batch of sunspots

Context:

- Research findings reported from a team of **Indian Institute of Science Education and Research (IISER), Kolkata.**

Background:

Solar dynamo:

- Given the high temperatures **in the Sun, matter exists there in the form of plasma**, where the electrons are stripped away from the nuclei.
- The Sun is made of **hot ionized plasma whose motions generate magnetic fields in the solar interior** by harnessing the energy of the plasma flows. This mechanism is known as the solar dynamo mechanism (or magneto-hydrodynamic dynamo mechanism). This generates the **magnetized sunspots**, giving rise to the solar cycle.
- Given the nature of the solar dynamo, the part of its magnetic field that gives rise to sunspots **reverses direction when it moves from one solar cycle to another.**

Sunspots:

- Sunspots are **relatively cooler spots on the Sun’s surface.**
- The number of sunspots is not constant. Their number increases and decreases in cycles that last 11 years approximately. This cycle is called **the solar cycle.** The sun is currently at the minimum of one such cycle.
 - So far, astronomers have documented 24 such solar cycles, with the last one ending in 2019.

- Sunspots occur in pairs, with a leader and a follower. They originate deep within the Sun and become visible when they pop out from the surface.
 - Sunspots are the **point of origin for huge solar flares and coronal mass ejections** that spew material from the sun's surface into outer space.

Significance of sunspots:

Influence on the climate of the earth:

- Sunspot activity may be correlated with climate on earth.
- In the period between 1645 and 1715, sunspot activity had come to a halt on the Sun, commonly referred to as the Maunder minimum. This coincided with extremely cold weather globally. This observation seems to indicate that **sunspots may have an impact on the climate of the earth.**

Influence on space weather:

- **The solar activity affects space weather, which can have an impact on space-based satellites, GPS and power grids.**
- Given the increasing reliance on satellites and electricity, a complete understanding of solar activity is important.

Details:

The weakening trend in solar activity:

- Following a **weakening trend in solar activity over the past three sunspot cycles**, there were predictions that the Sun would go silent into a grand minimum lasting many decades and the **disappearance of solar cycles.**
- Some groups had claimed that this would give **rise to a mini ice age and cooling of the global climate.**

25th solar cycle:

- A team from IISER Kolkata based on its work has shown that the **next sunspot cycle, which marks the 25th sun cycle being documented, has begun.**
 - They used the data from the instrument Helioseismic and Magnetic Imager aboard NASA's space-based Solar Dynamics Observatory for their calculations.

44. Supreme Court upholds 2018 order on land acquisition (GS-3)

Why in News

Recently, the **Supreme Court of India** reaffirmed its February 2018 ruling on **Section 24 on land acquisition compensation awards** in the Indore Development Authority case.

- The five-judge Bench also overruled an earlier 2014 ruling under the **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act of 2013**.

Background

- The **2013 Act replaced the Land Acquisition Act, 1894 (1894 Act)** and provides for higher compensation to those deprived of land by the government for both public and private sector projects.
 - It also mandates consent of a majority of land-owners and contains provisions for rehabilitation and resettlement.
- Under **Section 24(2) of the 2013 Act**, land acquisition made under the old law of 1894 lapses if the award of **compensation had been made five years before the new Act** came into force, but **has not been paid**.
 - In such situations, the process will start afresh under the new Act, which **mandates higher compensation**.
- However, there are cases of farmers and landowners refusing compensation which delays the possession by the government.
 - In such cases, the compensation is deposited in the government treasury and according to one interpretation, the acquisition process is saved.
 - This interpretation has been contended on the basis that such cases will fall under the new Act because compensation has not been paid to the landowners, and the lapsing clause in Section 24 should be applied.
- If a long-pending land acquisition process closes under the old law and fresh acquisition proceedings start under the new one, the land-owners will benefit and project proponents will have to pay higher compensation.
- In the **Pune Municipal Corporation vs Harakchand Misirimal Solanki case 2014**, a **three-judge bench** held that acquisition proceedings initiated under the 1894 Act, which were initiated five years before the 2013 law was enacted (in 2014), would lapse if the land in question was not taken control of or if compensation was not paid

to displaced farmers.

- The judgment came as a **relief for landowners**.
- However, in the **Indore Development Authority vs Shailendra (D) Through LRS & Ors case 2018**, another three-judge bench declared the 2014 judgment “**per incuriam**”.
- It held that if a landowner refuses to accept the compensation offered by the developer, they cannot take advantage of their own wrongdoing and have the acquisition proceedings lapse under the old law.
- This judgement was a **relief for developers**.

Per Incuriam

- It literally translates as "through lack of care".
- A judgment can be declared per incuriam if it does not follow a statutory provision or a binding precedent that may have been relevant.
- Such judgments can be declared to be without any legal force and are not treated as a valid precedent

Key Points

- In the latest ruling, the Bench was interpreting **Section 24 (2)** of the 2013 Act.
- The provision said that **if the physical possession of land has not been taken or the compensation is not paid for five or more years prior to 1st January 2014**, the acquisition proceeding is “**deemed to have lapsed**”.
- The judgment said that the **compensation would be considered paid** if the amount is put in the Treasury.
- There was no obligation that the amount should be deposited in the court in order to sustain the land acquisition proceedings.
- Thus, there is **no lapse if** possession has been taken and compensation has not been paid. Similarly, there is no lapse if compensation has been paid and possession not taken of the land.
- Further, it was also held that Section 24(2) of the 2013 Act **does not give rise to a new cause of action to question the legality of concluded proceedings** of land acquisition.

45. Monetary policy can't combat the COVID-19 impact (GS-2/3)

Context

Central banks the world over are devising the strategies to deal with the impact of COVID-19 on their economies.

How the Central banks are responding?

- **US Fed's response:** The huge **50 basis points cut in rates by the U.S. Federal Reserve** to lift economic sentiment hit by **COVID-19** has disrupted central banking worldwide.
- **Pressure on other Central banks to follow suits:** Even as analysts debate whether a monetary policy response is a right strategy, central banks across the world are feeling the pressure to follow suit to the largest rate cut by the Fed since 2008.
- **How banks are responding?** Central banks of Australia and Malaysia have cut rates already while others such as the Bank of Japan, Bank of England and the European Central Bank are contemplating joining the caravan.

How the RBI is responding?

- **First line of economic defence:** With monetary policy turning out to be *the de facto* first line of economic defence against the ill-effects of the virus, the focus in India has turned to the Reserve Bank of India's response.
- **Hope of rate cut:** Yields on 10-year government securities fell by as much as 0.12% in the hope of a rate cut by the RBI and they stayed soft.
- **But what are the central bank's options?**
 - **No unilateral rate adjustment:** Unlike other countries, the legal framework in India after the setting up of the Monetary Policy Committee (MPC) is such that the RBI cannot unilaterally adjust rates.
 - The MPC will have to meet and deliberate on the situation before the call to cut rates is taken and such a call will have to be based on an assessment of inflation in the economy.

Is a rate cut the right response?

- **Impact of the virus on the supply side:** The first-order impact on the global economy of the spreading virus is a disruption **to trade and to global supply chains**.
 - With **China being the factory of the world**, the clampdown in that country has already disrupted supplies of products ranging from cell phone components to bulk drugs and auto components.
 - Factory lines across the world could freeze as supply chains get disrupted.

- **Limits of Monetary policy to deal with the supply-side problem:** Monetary policy is excellent to address demand shocks but is a blunt tool when it comes to addressing supply-side issues.
 - **Where to spend?** People may be encouraged to spend more due to a rate cut but what will they spend on if products go scarce, travel convulses and public spaces such as movie theatres and malls become no-go areas?
- **The rate cut will boost the sentiments only:** A rate cut can, at best, help to boost sentiment but that again will be transient as the market's reaction after the Fed rate cut proves.
 - **Expansionary monetary policy cannot improve the situation:** The Swedish central bank's deputy governor Anna Breman has rightly questioned the logic of a rate cut as a response to the **coronavirus** impact pointing out that an expansionary monetary policy cannot improve the situation.
- **How the RBI might respond?** The sentiment being what it is, the RBI may find itself under increasing pressure to act. Given the MPC constraint, it may well choose to do what it did in the February monetary policy- **unleash other weapons in its armoury to give the same effect as a rate cut.**
 - Thus, we may well see the **central bank announcing another tranche of long-term repo operation**, akin to the ₹1 lakh crore that it announced in February.
 - That will mean that banks will gain access to three-year funds at the repo rate of 5.15%, much lower than the market rate.
 - And then, there's **Operation Twist** which the RBI employed to good effect in December, softening rates at the long end of the yield curve.

Would any of these measures yield any response?

- **Doubtful results:** It's doubtful if any of these measures can address the hit to economic growth. The virus has undoubtedly surfaced at a very wrong time for the Indian economy which is showing hesitant signs of a return to growth.
- **Which sectors will be impacted the most?** The impact will be felt on more than one front. Industries such as pharmaceuticals, electronics and automobiles could be headed for trouble given their high dependence on Chinese inputs.
- **Government's response:** While the government is said to be formulating a response, including the possibility of airlifting supplies, the practicality of this solution needs to be watched as also its impact on costs for the industries concerned.

Impact on exports and offsetting factor of oil import

- **The biggest problem:** The bigger problem could be from a fall in exports, which accounts for 20% of the GDP.
- **Which exporters would feel the heat?** If the developed world tips into recession due to the virus, exporters of products ranging from petroleum and textiles to leather and gems and jewellery will feel the heat.

- **Oil offset due to fall in oil prices:** The offsetting factor, of course, will be a lower oil import bill due to the sharp fall in oil prices. This may also have a benevolent effect on inflation.
- But there will be other headaches for the central bank if the developed world embarks on monetary expansion. The RBI will be faced with the challenge of staunching inflows of hot money coming in search of the higher returns available in India.

Conclusion

- **Hot money concern for RBI:** There will be other headaches for the central bank if the **developed world embarks on monetary expansion**. The RBI will be faced with the challenge of staunching inflows of hot money coming in search of the higher returns available in India.
- **Opportunity in the crisis:** As with every crisis, there's also an opportunity here. Economic growth is bound to suffer in the short-term **but there could be long-term spin-offs if domestic industry and government get their acts right**.
 - Supply chains can be localised through fresh investments and India can bid to be an alternative to China in the global value chain.
- **India can be an option to China for global supply chain:** The COVID-19 crisis has only underlined in red the lesson that global corporations learnt when trade war broke out between the U.S. and China- **the global supply chain needs alternative options to China. India is eminently qualified to assume that role**. If only our policymakers and industrialists rise up to the challenge.

46. Online versus offline

Context

Any intervention to “correct” pricing essentially involves placing a higher weightage on the assumed losses of competitors/producers than on the consumer's apparent gains. This is not a straightforward exercise.

Duopolies and scrutiny by the CCI

- **Duopolies in the most segment:** The online marketplace or the platform/intermediation service market is now largely characterised by duopolies in most segments:
 - Amazon and Flipkart in e-commerce, Uber and Ola in transport, Zomato and Swiggy in food service, MakeMyTrip and Yatra in travel bookings.

- Some niche players do exist in these segments, but by and large, the market has been carved up by large players.
- **Why CCI is scrutinising these companies?** Several of these companies have come under the scrutiny of the **Competition Commission of India (CCI)**.
 - **What are the issues involved?** The issues involved here have far-reaching ramifications for both online and offline market places. **Some of the more contentious issues are:**
 - Do such market structures restrict online competition?
 - Are the players engaging in predatory pricing?
 - If so, is it driving out both online and offline competition and does this adversely impact consumer welfare?
 - Is there a need for policy intervention, and, if so, what should be the underlying framework?

Lower barrier to entry not translating into greater competition

- **Market not working as per theory:** In theory, the online market structure should facilitate greater competition given the lower barriers to entry. But this may not be the case.
 - **Take-over:** Most other firms in the segments mentioned above have **either been taken over or have folded up**.
- **What is the reason for the emergence of such market structures**
- **Positive feedback loop:** One explanation for the emergence of these market structures is that as companies grow, with more users coming on board these platforms, they benefit from what CCI calls **positive feedback loop**.
 - This leads to **market concentration**.
 - **Difficulties for new players:** Given the network effects, which are common in digital spaces, it becomes difficult for new players to enter these spaces, and gain market share as there isn't much space for many such networks.
- **Capital intensive market:** Another possible explanation is that, contrary to perception, the online space is **highly capital intensive**.
 - Deep pockets are required to fund the discounts to get customers on board initially.
 - Such market structures are more likely in capital deficit countries like India.
- **Incumbents restricting new entrant:** Incumbents, as in other sectors, may also engage in various strategies to restrict entry and thus competition.
 - Even small actions by these platforms coupled with the network effects can adversely impact competition.

Predatory pricing-issues involved in it

- **Allegations of predatory pricing driving out the competition:** Many allege that these two-sided online platforms engage in predatory pricing or below-cost pricing either by **funding it themselves (deep pockets) or by squeezing producers**.

- This drives out the competition – both online as well as offline.
- **Predatory pricing is anti-competition, to begin with.**
- **How it is harmful to the customers?** While consumers do benefit in the short run, once the competition is driven out, the platform starts raising prices to recoup previous losses.
- **But is it that straightforward?**
- **What are the issues involved in predatory pricing?**
- **First- Assessing whether a platform is engaged in predatory pricing.**
 - In India, it is defined as price falling below average variable cost – **may not be a straightforward exercise.**
 - **Why it is not a straight forward exercise?** The dynamics of online pricing (prices change over time), their unique cost structures – in such two-sided platforms, prices/costs on both sides should be seen in conjunction – as well as the impact of economies of scale and organisational efficiency in lowering costs, all need to be factored in.
 - **Discount for clearing inventories:** Besides, one would also have to take into account that even offline firms engage in deep discounting to clear inventories.
 - As do both online and offline firms to acquire customers in the early stages of their business.
- **Second-The impact of such pricing strategies on competition and on consumer welfare must be carefully assessed.**
 - **Driving out competitors is not equal to driving out the competition:** It is quite likely that once the competition is eliminated and the platform starts to raise prices, new players will enter the market, attracted by higher prices.
 - Driving out competitors may not be the same as driving out the competition – though the extent to which new firms are able to enter the market will depend on the degree to which barriers to entry exist.
 - **Concerns of recovering the losses:** Platforms will be mindful that losses will be hard to recover, and may not engage in below-cost pricing to drive out competitors for extended periods.
 - **Consumers are unlikely to lose out as prices are likely to remain low.**
- **Third- Possibility of collusion**
 - There is also an argument for closer examination of such market structures because of the possibility of collusion.
 - **Customers moving towards cheaper options:** In most such markets, as the consumer has little to differentiate between the two platforms, it is the price that sets them apart.
 - Consumers tend to gravitate towards the cheaper option. This ensures continuous competition between the major players to offer low prices.
 - **Possibility of customer left with no option:** It is possible that at some point, the players will **find it in their interest to venture into some sort of agreement** that allows both of them to survive, rather than be engaged in a race to the bottom – as has seemingly **happened in the telecom sector.**

- **Fourth- Linking predatory pricing with abuse of dominant market position must be reexamined.**
 - **The dominant position is not always linked with predatory pricing:** As the experience of the telecom sector shows, a dominant position may not be a prerequisite for predatory pricing.
 - Accepting this argument would imply that if regulatory intervention is required to check predatory pricing, it could kick in before market power or dominance is established.
 - **Taking into account deep pockets:** Alternatively, the definition of market dominance could be expanded to take into account deep pockets.

Conclusion

- **Set of guidelines instead of the fixed framework:** Any intervention to “correct” pricing essentially involves placing a higher weightage on the assumed losses of competitors/producers than on the consumer’s apparent gains. This is not a straightforward exercise. Having a fixed predetermined framework is unlikely to be helpful. Instead, it would be more useful to have a set of guiding principles based on which regulatory intervention, if required, can be undertaken.
- **Safeguarding competition not competitors:** Competition policy should be driven by safeguarding competition, not competitors. It should seek to bring about greater transparency in pricing and reduce information asymmetry.

47. The growth challenge

Context

The focus in the near future should to increase investments and facilitate credit for funding these productive assets so that India’s potential output growth can steadily rise.

Growth prospects of India

- **The NSO forecast at 5%:** The latest data from the National Statistical Office (NSO) retained India’s economic growth forecast at 5 per cent for the current financial year.
 - Growth has dropped from **6.1 per cent** in the previous year.

- **Fall in nominal GDP:** More strikingly, nominal GDP growth has decelerated from an average of **11 per cent** during 2016-17 to 2018-19 to **7.5 per cent** this year.
 - Lower inflation added to the volume slowdown.
 - The value of India's GDP for FY20 is estimated at around \$2.9 trillion.

Input and output side growth prospects

- GDP is estimated from both **output and demand lenses**, using specific economic indicators as proxies for activity in specific sectors.
- **Output side:** From the output side, sector-wise estimates were as following-
 - **Agriculture sector** growth was revised up to 3.7 per cent (up from the 2.8 per cent previously).
 - Agricultural production is expected to improve based on the third advance estimates of the rabi season crops, as well as higher horticulture and allied sector output (livestock, forestry and fishing), which now is significantly larger than conventional food crops.
 - **Industrial activity** was lowered to 1.5 per cent (from 2.3 per cent earlier).
 - The key concern regarding the continuing slowdown is the increasing weakness in the industrial sector (particularly of manufacturing, whose growth has progressively fallen from 13.1 per cent in FY16 to 5.7 per cent in FY19, and plummeting to 0.9 per cent in FY20).
 - **Services output** remained largely unchanged at 6.5 per cent.
- **Demand-side:** From a demand perspective, the obverse side to **the manufacturing slowdown** is the even sharper drop in **fixed asset investment growth** – down sharply from an average 8.5 per cent during FY17 and FY19 to -0.6 per cent in FY20.
 - The causes for this contraction needs to be understood in detail, and we will return to this.

Private consumption- a significant driver of growth

- **Private consumption at 60% of GDP:** The other significant driver of growth in India has been private consumption. For perspective, the share of private consumption had averaged 59-60 per cent during FY16-FY20.

- **Government consumption 10% of GDP:** Reflecting the higher spending over the last couple of years, the share of government consumption in GDP has risen from an average of 10.5 per cent of GDP over FY12-17 to almost 12 per cent in FY20, **resulting in the share of total consumption above 70 per cent.**

Drop in the share of nominal investment

- **Drop from 39 % to 30 % of GDP:** The really remarkable trend, though, as noted above, is the share of nominal investment in GDP progressively dropping from 39 per cent in FY12 to 30 per cent in FY20.
- **Is it a good sign?** Part of this is actually good, reflecting higher Capex efficiency.
 - **Slowing household consumption:** One narrative underlying the contraction in fresh Capex in FY20 was **slowing household consumption growth**, which, in nominal terms, fell from an average 11.6 per cent during FY16-19 to an estimated 9.1 per cent in FY20.
 - **Disproportionate contribution to lower growth:** Though the deceleration prima facie does not seem significant enough to result in a broader economic slowdown of the current magnitude, the high share of household consumption has contributed disproportionately to lower growth.
 - **Fall in capacity utilisation:** A direct fallout of this is that seasonally adjusted capacity utilisation (based on RBI surveys) had shrunk from 73.4 per cent in the first quarter of FY20 to 70.3 per cent in the second quarter, and this is unlikely to have improved materially in the second half of the year.
 - This is one of the reasons for the low levels of fresh investment.

Reduced flow of credit to the commercial sector

- **Impediment to growth revival:** The other cause of the low Capex, more from the supply side, is a much-reduced flow of credit to the commercial sector, and this remains the proximate impediment for growth revival, with signs of risk aversion in lending still strong despite the recent measures by RBI to incentivise credit to productive sectors.
 - Funds from selected sources, over April-January FY20, was only about Rs 9 lakh crore as against Rs 15 lakh crore in the corresponding 10 months of FY19.

- **Bank credit lowest in three months:** Growth in bank credit (which is still the largest source of financing) till mid-February 2020 was down to 6.3 per cent – the lowest in three years.
 - Even this is almost wholly driven by retail credit; incremental credit to industry and services over this period was negative.

Investor confidence and coronavirus factor

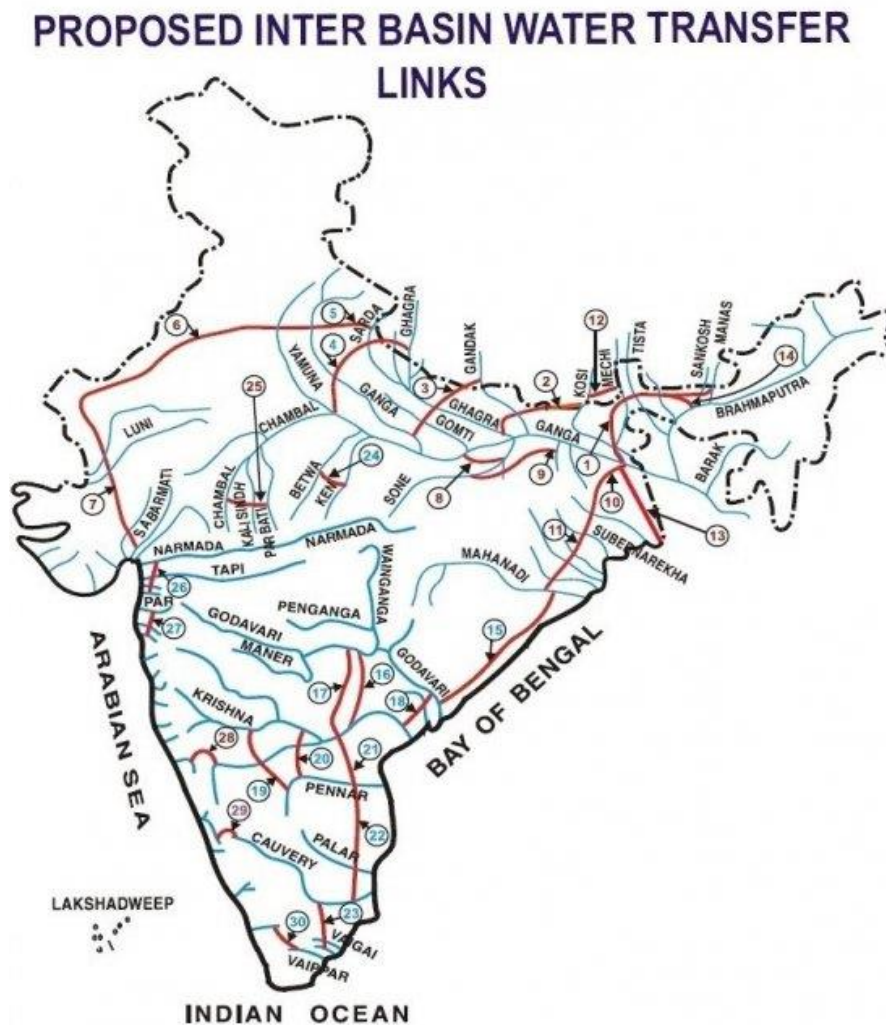
- **A bright feature of the economic environment:** One bright feature in this economic environment is strong foreign investor confidence in India, reflected in both FPI equity and FDI flows.
 - Many borrowers have used offshore sources to refinance or pay down domestic bank loans and debt.
 - A global risk-off environment might restrict even this channel in the near future.
- **Robust corporate bond issuances:** Domestic corporate bond issuances have also remained robust, although the dominant set of borrowers still remain public sector agencies and financial institutions.
- **Coronavirus factor likely to moderate the gains:** Monthly economic indicators suggest that the growth deceleration has likely bottomed out in the third quarter.
 - The bet has been on reducing inventories and the consequent production ramp-up to replenish stocks. However, the evidence on this is mixed.
 - **The coronavirus effects**, both concurrent and lagged, will also moderate some of the emerging positive effects of counter-cyclical policy measures of the past six months.
 - If the outbreak does not abate over the next month or so, **the complex supply chains of intermediates sourced from China will run dry** and add to the already weak system demand.
- **Growth prospects in the next few weeks:** Surveys indicate that both business and consumer confidence, which while improving, remain muted. A growth revival, hence, is likely to be only very modest over the next few quarters.

Conclusion

A \$5 trillion economy by 2025 is still a worthwhile target and aspirational; coordinated strategies, policies, execution and institutional mechanisms will be needed to move up to a sustained 8 per cent plus growth consistent with

achieving the target. The focus in the near future should to increase investments and facilitate credit for funding these productive assets so that India's potential output growth can steadily rise.

48. National Interlinking of Rivers Authority (NIRA)



The Central government is working on the establishment of an exclusive body to implement projects for linking rivers.

National Interlinking of Rivers Authority

- To be called the NIRA, the proposed body is expected to take up both inter-State and intra-State projects.
- It will also make arrangements for generating up funds, internally and externally.
- Headed by Union Minister of Jal Shakti, the panel includes Irrigation or Water Resources Ministers and Secretaries of States.
- It is being assisted by a Task Force for ILR, which is a committee of experts essentially drawn from the Jal Shakti Ministry, Central Water Commission and the NWDA.

About National River Linking Project (NRLP)

- The NRLP formally known as the National Perspective Plan, envisages the transfer of water from water 'surplus' basins where there is flooding to water 'deficit' basins where there is drought/scarcity, through inter-basin water transfer projects.
- It is designed to ease water shortages in western and southern India while mitigating the impacts of recurrent floods in the eastern parts of the Ganga basin.
- Interlinking of rivers was conceived more than 125 years ago by Sir Arthur Cotton, mainly to facilitate trade but it was not implemented then.
- The proposed NRLP, now comprises 29 canals totalling 9,600 km, will involve the movement of 245 trillion litres of water.
- If and when implemented, it will be one of the biggest inter-basin water transfer projects in the world.

ILR Projects in India

- As of now, six ILR projects – the Ken-Betwa, Damanganga- Pinjal, Par-Tapi-Narmada, Manas-Sankosh-Teesta-Ganga, Mahanadi-Godavari and Godavari-Cauvery (Grand Anicut) – have been under examination of the authorities.
- The Ken-Betwa ILR is India's first such project.
- With regard to the peninsular rivers, the Centre has chosen to focus on the Godavari-Cauvery link than the earlier proposal to link the Mahanadi-Godavari-Krishna-Pennar-Cauvery rivers.

Issues and Concerns

Ecological issues

One of the major concerns is that rivers change their course in 70–100 years and thus once they are linked, future change of course could create huge practical problems for the project.

Aqua life

A number of leading environmentalists are of the opinion that the project could be an ecological disaster. There would be a decrease in downstream flows resulting in reduction of fresh water inflows into the seas seriously jeopardizing aquatic life.

Deforestation

Creation of canals would need large areas of land resulting in large scale deforestation in certain areas.

Areas getting submerged

Possibility of new dams comes with the threat of large otherwise habitable or reserved land getting submerged under water or surface water. Fertile deltas will be under threat, with coastal erosion expected to threaten the land and livelihoods of local economies that support 160 million people.

Displacement of people

As large strips of land might have to be converted to canals, a considerable population living in these areas must need to be rehabilitated to new areas.

Dirtying of clean water

As the rivers interlink, rivers with dirty water will get connected to rivers with clean water, hence dirtying the clean water.

Disrupting of ecological flow

On implementation, water discharge in 23 out of 29 rivers will reduce considerably, they say. The Ganga will see a 24% decrease in flow. Its tributaries Gandak (-68%) and Ghaghara (-55%) will be the worst affected. While the

Brahmaputra will see only a 6% loss, its tributaries will see massive flow reductions: Manas (-73%), Sankosh (-72%) and Raidhak (-53%). Changes in water flow and trapping of silt in reservoirs will see a dip in the sediment deposited by rivers.

49. Way out lies within

Context

Domestic demand must play a greater role in India's growth story.

Recovery in the Indian economy

- **Sub-5 per cent growth rate:** India's fourth-quarter GDP growth (the calendar year 2019) printed another sub-5 per cent growth rate.
- **Favourable base effect:** It would have been lower had it not been for the large downward revisions to previous years' GDP that statistically boosted the last quarter's growth rate because of favourable base effects.
- **The decline in GDP stabilised:** Policymakers and the market heaved a sigh of relief that the relentless decline over the last three years at least seems to have stabilised around 4-5 per cent.
- **Why some countries prefer sequential growth rate:** Because year-over growth rates are so strongly affected by **what happened a year ago**, most economies (including China) instead publish and conduct policy discussions based on sequential quarterly growth.
 - **Better sense of momentum:** Sequential growth rates provide a much better sense of the momentum and turning points in activity, which are critical to deciding whether, how much, and when the economy needs policy support.
- **The magnitude of recovery:** The growth momentum rose, albeit modestly, from 3.8 per cent in the third quarter of 2019 to 4.1 per cent.
 - **Non-farm and non-governmental GDP recovery:** More importantly, non-farm and non-government GDP (the closest approximation to non-farm private-sector GDP) bounced much more sharply from 1.6 per cent (and no this is not a misprint) to 4.4 per cent in the fourth quarter.

What is the dominant narrative of the slide in growth?

- **The deceleration in sequential terms:** With the revised data, we now know that annual growth over the last four years has slowed from 8.3 per cent to 7 per cent to 6.1 per cent to 4-5 per cent.
 - **The decline in non-farm private GDP:** In sequential terms, the deceleration was far more dramatic, especially in non-farm private GDP, which after hitting a run rate of 13 per cent in the first quarter of 2016 fell to 1.6 per cent by the third quarter of 2019.
 - **The dominant narrative of the cause of slide:** The dominant narrative is that India's woes are just an unfortunate and **unintended consequence of demonetisation**, the shift to a national GST, and the credit squeeze caused by the bad debt in banks and non-banks.
 - **The dominant narrative on recovery:** With a bit more fiscal support, some monetary easing, and extended regulatory forbearance to help banks work out their bad debts, these headwinds will fade and India will likely be back to its winning ways.

Why real cause of the slowdown lays somewhere else?

Following factors suggest that answer lies somewhere else.

- **Disruptive but not the drivers of the slowdown:** While it is undeniable that facts stated in the dominant narrative had been disruptive, they couldn't be the drivers of the decline.
 - **Slide in growth started even before demonetisation:** India's growth had been sliding since the second quarter of 2016; nearly 6 months before demonetisation and a year before the GST was introduced.
 - By the third quarter of 2016, non-farm private sector growth had already slid to 3.5 per cent.
 - **Bad debt problem predates slowdown:** Although bad debt hit the headlines in 2016, the overleverage had already begun to tighten bank lending since 2014.
- **Fall in corporate investment- inexplicable cause:** More inexplicable is the argument that falling corporate investment is the main culprit for the slowdown.
 - It is true that corporate investment is no longer running at the heady **17 per cent** of GDP of the pre-global financial crisis (GFC) days but at a much more sombre **11-12 per cent**.

- However, this outsized adjustment had already taken place by **2010 and since then, corporate investment has flatlined at current levels.**

The answer lies in globalisation

It is obvious once one eschews India's exceptionalism and accepts that it is just another emerging market economy that grew on the coattails of globalisation with the minimal reforms. Globalisation has largely determined India's fate.

- **Growth in corporate investment and exports:** Contrary to a widely held misperception, India is and has been for a long time far more open to the global economy than believed.
 - **Rise in corporate investment from 5 to 17%:** The limited liberalisation of 1991-92, coupled with the corporate restructuring in the late 1990s, spurred corporate investment to rise from 5-6 per cent of GDP in the early 2000s to 17 per cent of GDP by 2008.
 - **Increase in exports:** Almost all of this expansion in investment was geared to produce for exports, which grew at an astonishing pace of **18 per cent per year-over-year in this period** as global trade expanded at breakneck speed with the entry of China into the WTO in 2001.
 - **12% of GDP to 26% of GDP:** Exports as a share of GDP more than doubled from 12 per cent in the early 2000s to over 26 per cent by 2008.
 - **Slow growth in private consumption:** In contrast, private domestic consumption, which is considered to be India's great strength, grew only at 6 per cent annually, less than the growth rate of the economy, such that its share in GDP fell from **63 per cent to 56 per cent.**
 - **The engine of the Indian economy- Export:** Since 2012, global trade has floundered and with that so has India's economy.
 - Indeed, the entire rise and fall of investment, including the quarter-to-quarter twists and turns in it, can be almost fully explained by changes in exports.
 - **The Indian economy has long been flying on one engine - exports – and that is now spluttering.**

What are the prospects of taking the economy back to its high growth path

- **Unlikely:** So will the nascent recovery strengthen and take the economy back to its high growth path? Unlikely on current policies.
- **COVID-19 factor:** In the near term, as is now widely feared, the COVID-19 outbreak could turn into a pandemic, sharply reducing global demand and trade.
 - With that, even expectations of a modest 2019-20 recovery to 5.25 per cent growth are under threat.
- **Backlash against globalisation:** Over the longer term, it is unlikely that global trade will return to its pre-Global financial crisis growth rates not only because supply chains have stopped expanding in the absence of any material technology breakthrough, but there is also a growing political backlash against globalisation in the developed market that has led to increased trade barriers.

Way forward

- **Search for new sources of growth:** India too, like other emerging market economies, needs to face up to the reality that it can no longer depend on global trade to be the only growth driver. Instead, it needs to search and find new sources of growth and that starts with recognising and accepting reality.
- **Let domestic demand play a greater role in the economy:** Policymakers need to stop thinking about India as a perennially **supply-constrained economy** focusing almost all policies and reforms to easing these constraints. Instead, it is time to let domestic demand play a greater role in India's growth story.
- **Policy changes:** The above factors mean that India Inc. needs to shift from producing what foreigners want to produce what residents can afford, it also means that policymakers have to reverse policies that have so far forced households to keep increasing savings (for retirement income, children's education, healthcare, and housing) through a web of financial repression, regulatory distortions, and public spending choices.
 - It means redesigning India's infrastructure to look more inward and less outward.
 - **Reduce out of pocket expenses:** Increasing public provisioning of healthcare and education, reforming insurance regulations to reduce out-of-pocket expenses and eliminating financial repression to raise returns on retirement savings.
 - Merely tinkering with macroeconomic policies will not be enough.

50. Why UN Human Rights Commission intends to intervene in a SC case against CAA?

The UN High Commissioner for Human Rights “intends to file” an Intervention Application in the Supreme Court of India seeking to intervene in Writ Petition (Civil) No. 1474 of 2019 and praying that it be allowed to make submissions.

On what grounds is a UN body seeking to intervene in a case regarding a domestic Indian law?

- The Office of the High Commissioner for Human Rights (UN Human Rights) is the leading UN entity on human rights.
- The UN General Assembly entrusted both the High Commissioner and her Office with a unique mandate to promote and protect all human rights for all people.
- As the principal United Nations office mandated to promote and protect human rights for all, OHCHR leads global human rights efforts speaks out objectively in the face of human rights violations worldwide.
- This resolution, adopted by the UNGA in 1994, created the post of the UN High Commissioner for Human Rights.

Its jurisdiction

- The application says that successive High Commissioners have filed amicus curiae briefs on issues of particular public importance within proceedings before a diverse range of international and national jurisdictions.
- It includes the European Court of Human Rights, the Inter-American Court of Human Rights, the International Criminal Court, and at the national level, the United States Supreme Court and final appeal courts of States in Asia and Latin America.

What exactly does the intervention application say?

- The OHCHR has welcomed as “commendable” the CAA’s stated purpose, “namely the protection of some persons from persecution on religious grounds.
- It also “acknowledges the history of openness and welcome that India has exhibited to persons seeking to find a safer, more dignified life within its borders”.

- However the examination of the CAA raises important issues with respect to international human rights law and its application to migrants, including refugees, says the OHCHR.
- The CAA, it says, raises “important human rights issues, including its compatibility in relation to the right to equality before the law and nondiscrimination on nationality grounds under India’s human rights obligations”.
- The application acknowledges that “the issue of *nondiscrimination on nationality grounds falls outside the scope of this intervention*”, but insists that “this in no way implies that there are not human rights concerns in this respect”.

Why intervene?

- The application questions the reasonableness and objectivity of the criterion of extending the benefits of the CAA to Buddhists, Sikhs, Hindus, Jains, Parsis and Christians from Afghanistan, Bangladesh and Pakistan alone.
- It points out that while the Indian government has suggested that persons of Muslim faith, regardless of denomination or ethnicity, are protected there.
- However recent reports by UN human rights show that Ahmadi, Hazara and Shia Muslims in these countries warrant protection on the same basis as that provided in the preferential treatment proposed by the CAA.

Is there a specific basis on which the OHCHR has faulted the CAA?

The application flags some central principles of international human rights law:

1. the impact of the CAA on some migrants
 2. the enjoyment of human rights by all migrants and the rights of all migrants (non-citizens) to equality before the law and
 3. the principle of non-refoulment, which prohibits the forcible return of refugees and asylum seekers to a country where they are likely to be persecuted
- The application mentions that all migrants “regardless of their race, ethnicity, religion, nationality and/or immigration status enjoy human rights and are entitled to protection”.

- It cites international human rights instruments to urge the inclusion of non-discrimination, equality before the law, and equal protection before the law into the foundation of a rule of law.
- International human rights law, the application says, does not distinguish between citizens and non-citizens or different groups of non-citizens for the purposes of providing them protection from discrimination, “including in respect of their migration status”.

India’s stance

- The Citizenship Amendment Act is an internal matter of India and concerns the sovereign right of the Indian Parliament to make laws.
- MEA spokesperson insisted that no foreign party has any locus standi on issues pertaining to India’s sovereignty.
- The CAA was “constitutionally valid and complies with all requirements of (India’s) constitutional values”, and “is reflective of our long-standing national commitment in respect of human rights issues arising from the tragedy of the Partition of India”.

51. SC frees trade in cryptocurrencies, annuls RBI curb

Context:

The Supreme Court has set aside an April 6, 2018, circular of the Reserve Bank of India (RBI) that prohibited banks and entities regulated by it from providing services in relation to virtual currencies (VCs).

Virtual Currencies:

- VCs are digital currencies in which encryption techniques are used to regulate the generation of the currency units and verify the transfer of funds, operating independently of a central bank.
- 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.

Read more about Bitcoins.

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.

Details:

- The court in its recent order has held that the ban did not pass the “proportionality” test.
 - The test of proportionality of any action by the government, the court held, 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 the judgement, it was observed that RBI had, till date, not come out with a stand that any of the entities regulated by it namely, nationalised banks/scheduled commercial banks/cooperative banks/NBFCs, had suffered any loss or adverse effect directly or indirectly, on account of VC exchanges.
- Besides, the court found that the RBI did not consider the availability of alternatives before issuing the circular.
- The court also referred to the Centre’s failure to introduce an official digital rupee despite two draft Bills and several committees.
- It also pointed to the two draft Bills, both of which advocated exactly opposite positions.

- In November 2017, the Centre constituted an Inter-Ministerial Committee, which initially recommended the 'Crypto-token Regulation Bill of 2018'.
 - This Bill found a complete ban on VCs an “extreme tool” and suggested regulatory measures.
 - At that point, the Committee was fine with the idea of allowing the sale and purchase of digital crypto assets at recognised exchanges.
- In February 2019, the Inter-Ministerial Committee went on to recommend a “total ban” on private cryptocurrencies through a proposed legislation called 'Banning of Cryptocurrency and Regulation of Official Digital Currency Act'.
 - This proposed law contemplated the creation of a digital rupee as official currency and a legal tender by the Central government in consultation with the RBI.
 - Had this law come through, there would be an official digital currency.
 - The Centre and the RBI would have had a monopoly over its creation and circulation.

Conclusion:

- Even as virtual currency investors and businesses welcomed 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.
- 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.
- Industry bodies believe that banning virtual currency is not the solution and that a risk-based framework must be developed to regulate and monitor cryptocurrencies and tokens.
- The RBI must reconsider its approach to cryptocurrency and come up with a calibrated framework that deals with the reality of these technological advancements.

52.The Economic Impact of Coronavirus

Why in News

The **Coronavirus outbreak** is having a negative impact on the various sectors of the economy.

Impact on Indian Economy

- **GDP Growth Rate**
 - The **Organisation for Economic Co-operation and Development (OECD)** has slashed India's growth forecast for 2020-21 by 110 basis points (bps) to 5.1%, warning that the impact of the Covid-19 outbreak on business confidence, financial markets and the travel sector, including disruption to supply chains, could shave 50 bps off global growth in 2020.
- **Pharmaceuticals:** Given the pharmaceutical industry's deep linkages to China, the supply chain of raw materials of drugs has taken a hit.
 - The production facilities in Himachal Pradesh – largest pharma hub of Asia – have warned of suspension.
 - Active Pharmaceutical Ingredients (APIs), also called bulk drugs, are significant ingredients in the manufacture of drugs. The Hubei province of China, the epicentre of the coronavirus, is the hub of the API manufacturing industry.
 - India is heavily import-dependent for APIs from China. India's API imports stand at around \$3.5 billion per year, and around 70%, or \$2.5 billion, come from China.
- **Automobile Industry**
 - China is one of the leading suppliers of auto components in India, accounting for 27% of the total imports.
 - The coronavirus is expected to have an impact on the Indian automotive industry and therefore also on the automobile component and forging industries, which had already reduced their production rate due to the market conditions and on account of the impending change over to BS-VI emission norms from BS-IV from April 2020.
- **Stock Market**
 - On 28th February, the Indian stock market registered one of its worst crashes in a single day. Indian indices fell over 3.5%, marking the second biggest fall in Sensex history.
 - The Sensex plunged 1,448.37 points to close at 38,297.29, while the Nifty tanked 3.711% or 431.55 points to settle a little above the 11,200 mark.
 - The Sensex's worst fall in history was on 24th August, 2015, when the indices fell 1,624 points on the back of a slump in the Chinese markets and rising crude oil prices.
- **Currency**

- The month of March is typically good for the Indian currency as remittances, from both overseas citizens and companies, tend to boost the exchange rate.
- In the past decade, the rupee has appreciated seven times against the dollar in March. But March 2020 could be hard on the exchange rate and the rupee's sharp drop to 73.25 per dollar on 3rd March, 2020 is evidence of this. One of the reasons is an increase in the number of reported cases of coronavirus in India.

Global Scenario

- **Global Growth:** The world's economy could grow at its slowest rate since 2009 this year due to the coronavirus outbreak, according to the Organisation for Economic Cooperation and Development (OECD). The OECD has forecast growth of just 2.4% in 2020, down from 2.9% in November 2019
- **Fall in Customer Demand:** Some people are choosing to avoid activities that might expose them to the risk of infection, such as going out shopping. Restaurants, car dealerships and shops have all reported a fall in customer demand.
- **Travel Industry:** The number of cases diagnosed is increasing around the world every day. Thus, many countries have introduced travel restrictions to try to contain the virus's spread, impacting the travel industry massively.
- **Beneficiaries**
 - Consumer goods giant Reckitt Benckiser, for example, has seen a boost in sales for its Dettol and Lysol products. The disinfectant is seen as providing protection against the spread of the disease, although its effectiveness has not yet been scientifically proven.
 - The price of gold - which is often considered a "safe haven" in times of uncertainty - has also increased. Its spot price hit a seven-year high of \$1,682.35 per ounce in February 2020.

Global Response

- The COVID-19 outbreak was declared a Public Health Emergency of International Concern by the WHO on 30th January 2020.
- According to recommendations by the World Health Organization, the diagnosis of COVID-19 must be confirmed by the Real Time- Polymerase Chain Reaction (PCRT-PCR) or gene sequencing for respiratory or blood specimens, as the key indicator for hospitalisation.
- \$15 million dollars has been released from the UN's Central Emergency Fund to help fund global efforts to contain the spread of the COVID-19 coronavirus, particularly vulnerable countries with weak health care systems.
- Vaccines are being developed.

Indian Response

- The Indian government arranged for the evacuation of 366 Indian citizens from Wuhan in a special Air India flight on 31st January 2020. The passengers were placed under quarantine for a period of 14 days.
 - A second batch of passengers, including seven Maldivan citizens evacuated by the government, arrived from Wuhan on 1st February 2020. The repatriated passengers were also monitored.
- The government has already introduced travel restrictions and suspended visas from affected countries.
- A detailed containment plan has been shared with states. States have been asked to identify possible isolation areas in hospitals that can accommodate larger numbers.
- The Indian health minister advised people to approach the government helpline numbers regarding the doubts related to symptoms of the deadly disease. The situation is being monitored at the highest level.
- PCR Test: If PCR test is positive, the sample is sent to the National Institute of Virology in Pune, which is the only government laboratory currently doing genome sequencing, for final confirmation.

National Institute of Virology

- The National Institute of Virology is one of the major Institutes of the Indian Council of Medical Research (ICMR).
- It was established at Pune, Maharashtra State in 1952 as Virus Research Centre (VRC) under the auspices of the ICMR and the Rockefeller Foundation (RF), USA.

Way Forward

- It is critical to mount a coordinated and coherent response. This not only means involvement of both public and private sectors but also allopathic and non-allopathic medical systems, different departments such as police, fire, transportation, tourism, food supplies and other sectors.

53.The growth challenge

Context

The focus in the near future should to increase investments and facilitate credit for funding these productive assets so that India's potential output growth can steadily rise.

Growth prospects of India

- **The NSO forecast at 5%:** The latest data from the National Statistical Office (NSO) retained India's economic growth forecast at 5 per cent for the current financial year.
 - Growth has dropped from **6.1 per cent** in the previous year.
- **Fall in nominal GDP:** More strikingly, nominal GDP growth has decelerated from an average of **11 per cent** during 2016-17 to 2018-19 to **7.5 per cent** this year.
 - Lower inflation added to the volume slowdown.
 - The value of India's GDP for FY20 is estimated at around \$2.9 trillion.

Input and output side growth prospects

- GDP is estimated from both **output and demand lenses**, using specific economic indicators as proxies for activity in specific sectors.
- **Output side:** From the output side, sector-wise estimates were as following-
 - Agriculture sector growth was revised up to 3.7 per cent (up from the 2.8 per cent previously).
 - Agricultural production is expected to improve based on the third advance estimates of the rabi season crops, as well as higher horticulture and allied sector output (livestock, forestry and fishing), which now is significantly larger than conventional food crops.
 - Industrial activity was lowered to 1.5 per cent (from 2.3 per cent earlier).
 - The key concern regarding the continuing slowdown is the increasing weakness in the industrial sector (particularly of manufacturing, whose growth has progressively fallen from 13.1 per cent in FY16 to 5.7 per cent in FY19, and plummeting to 0.9 per cent in FY20).
 - Services output remained largely unchanged at 6.5 per cent.
- **Demand-side:** From a demand perspective, the obverse side to **the manufacturing slowdown** is the even sharper drop in **fixed asset investment growth** – down sharply from an average 8.5 per cent during FY17 and FY19 to -0.6 per cent in FY20.
 - The causes for this contraction needs to be understood in detail, and we will return to this.

Private consumption- a significant driver of growth

- **Private consumption at 60% of GDP:** The other significant driver of growth in India has been private consumption. For perspective, the share of private consumption had averaged 59-60 per cent during FY16-FY20.
- **Government consumption 10% of GDP:** Reflecting the higher spending over the last couple of years, the share of government consumption in GDP has risen from an average of 10.5 per cent of GDP over FY12-17 to almost 12 per cent in FY20, **resulting in the share of total consumption above 70 per cent.**

Drop in the share of nominal investment

- **Drop from 39 % to 30 % of GDP:** The really remarkable trend, though, as noted above, is the share of nominal investment in GDP progressively dropping from 39 per cent in FY12 to 30 per cent in FY20.
- **Is it a good sign?** Part of this is actually good, reflecting higher Capex efficiency.
 - **Slowing household consumption:** One narrative underlying the contraction in fresh Capex in FY20 was slowing household consumption growth, which, in nominal terms, fell from an average 11.6 per cent during FY16-19 to an estimated 9.1 per cent in FY20.
 - **Disproportionate contribution to lower growth:** Though the deceleration prima facie does not seem significant enough to result in a broader economic slowdown of the current magnitude, the high share of household consumption has contributed disproportionately to lower growth.
 - **Fall in capacity utilisation:** A direct fallout of this is that seasonally adjusted capacity utilisation (based on RBI surveys) had shrunk from 73.4 per cent in the first quarter of FY20 to 70.3 per cent in the second quarter, and this is unlikely to have improved materially in the second half of the year.
 - This is one of the reasons for the low levels of fresh investment.

Reduced flow of credit to the commercial sector

- **Impediment to growth revival:** The other cause of the low Capex, more from the supply side, is a much-reduced flow of credit to the commercial sector, and this remains the proximate impediment for growth revival, with signs of risk aversion in lending still strong despite the recent measures by RBI to incentivise credit to productive sectors.
 - Funds from selected sources, over April-January FY20, was only about Rs 9 lakh crore as against Rs 15 lakh crore in the corresponding 10 months of FY19.
- **Bank credit lowest in three months:** Growth in bank credit (which is still the largest source of financing) till mid-February 2020 was down to 6.3 per cent – the lowest in three years.
 - Even this is almost wholly driven by retail credit; incremental credit to industry and services over this period was negative.

Investor confidence and coronavirus factor

- **A bright feature of the economic environment:** One bright feature in this economic environment is strong foreign investor confidence in India, reflected in both FPI equity and FDI flows.

- Many borrowers have used offshore sources to refinance or pay down domestic bank loans and debt.
- A global risk-off environment might restrict even this channel in the near future.
- **Robust corporate bond issuances:** Domestic corporate bond issuances have also remained robust, although the dominant set of borrowers still remain public sector agencies and financial institutions.
- **Coronavirus factor likely to moderate the gains:** Monthly economic indicators suggest that the growth deceleration has likely bottomed out in the third quarter.
 - The bet has been on reducing inventories and the consequent production ramp-up to replenish stocks. However, the evidence on this is mixed.
- **The coronavirus effects**, both concurrent and lagged, will also moderate some of the emerging positive effects of counter-cyclical policy measures of the past six months.
- If the outbreak does not abate over the next month or so, **the complex supply chains of intermediates sourced from China will run dry** and add to the already weak system demand.
- **Growth prospects in the next few weeks:** Surveys indicate that both business and consumer confidence, which while improving, remain muted. A growth revival, hence, is likely to be only very modest over the next few quarters.

Conclusion

A \$5 trillion economy by 2025 is still a worthwhile target and aspirational; coordinated strategies, policies, execution and institutional mechanisms will be needed to move up to a sustained 8 per cent plus growth consistent with achieving the target. The focus in the near future should to increase investments and facilitate credit for funding these productive assets so that India's potential output growth can steadily rise.

54. BEE- Star Rating Programme

Why in News

To commemorate its 19th **foundation day**, **Bureau of Energy Efficiency (BEE)**, Ministry of Power organized a Stakeholder Consultation to develop a vision towards building an energy efficient India.

Key Points

- On this occasion, BEE **expanded the coverage of its star labelling programme** by including energy efficient **Deep freezer and Light Commercial Air Conditioners (LCAC)**.

- With this inclusion BEE will cover 26 appliances.
 - **Deep freezer and Light Commercial Air Conditioners (LCAC) are major energy guzzlers** in commercial space.
 - The program will be initially launched in voluntary mode from 2nd March, 2020 to 31st December, 2021. Thereafter, it will be made mandatory after reviewing the degree of market transformation in this particular segment of appliances.
 - Through this initiative, it is expected to save around 2.8 Billion Units by FY2030, which is equivalent to GreenHouse Gas (GHG) reduction of 2.4-million-ton Carbon Dioxide.
- The Star Labeling Programme has been formulated by the **Bureau of Energy Efficiency**, under the **Energy Conservation Act, 2001**.
 - During the event, a **database on energy efficiency** named **UrjaDakshata Information Tool (UDIT)** was also launched. This initiative has been taken by the BEE with the **World Resources Institute (WRI)**.
 - It is a user-friendly platform that explains the energy efficiency landscape of India across industry, appliances, building, transport, municipal and agriculture sectors.
 - It will also showcase the capacity building and new initiatives taken up by the Government across the sectors in the increase energy efficiency domain.

Energy Efficiency in India

- **Transition:** India's energy sector is set for a transition with recent developmental ambitions of the Government e.g. 175 GW of installed capacity of renewable energy by 2022, 24X7 Power for all, Housing for all by 2022, 100 smart cities mission, promotion of e- mobility, electrification of railway sector, 100% electrification of households, Solarization of agricultural pump sets, and promotion of clean cooking.
- **Potential of Energy Efficiency:** Energy Efficiency has the maximum **GreenHouse Gas (GHG) abatement potential** of around **51% followed by renewables (32%), biofuels (1%), nuclear (8%), carbon capture and storage (8%) as per the World Energy Outlook (WEO 2010)**. World Energy Outlook (WEO) is the flagship publication of the International Energy Agency.
 - India can avoid building 300 GW of new power generation up to 2040 with implementation of ambitious energy efficiency policies.
- **Positives:** Successful implementation of Energy Efficiency Measures contributed to electricity savings of 7.14% of total electricity consumption of the country and emission reduction of 108.28 million tonnes of CO₂ during 2017-18.

Bureau of Energy Efficiency

- The Government of India set up Bureau of Energy Efficiency (BEE). on 1st March 2002 under the provisions of the Energy Conservation Act, 2001.
- The mission of the Bureau of Energy Efficiency is to assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act, 2001 with the primary objective of reducing energy intensity of the Indian economy.
- BEE coordinates with designated consumers, designated agencies and other organizations and recognize, identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

The Standards & Labeling Programme

- The Standards & Labeling Programme is one of the major thrust areas of BEE.
- A key objective of this scheme is to provide the consumer an informed choice about the energy saving and thereby the cost saving potential of the relevant marketed product.
- The scheme targets display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.

55.Nominations for the World Heritage List 2020

Why in News

- Recently, the Minister of State of Culture and Tourism has informed Lok Sabha that 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**.

Dholavira: A Harappan City

- The City of Dholavira located in **Khadir island of the Rann of Kutch (Gujarat)** belonged to the mature **Harappan phase**.
- It was excavated by **R.S Bisht in 1985**.
- It demonstrates a **highly organised system of town planning with perfected proportions, street-pattern and an efficient water conservation system** that supported life for **more than 1200 years (3000 BCE to 1800 BCE)** against harsh hot arid climate.
 - The water conservation methods of Dholavira are unique and measures as one of the most efficient systems of the ancient world.
- The presence of a three-tier zonation comprising of a distinct upper (citadel, bailey) and middle (having a distinct street-pattern, large scale enclosure and a ceremonial ground) towns enclosed by a lower town (with narrower streets, smaller enclosures and

industrial area) – distinguishes the city of Dholavira from other metropolises of the Indus Valley Civilisation.

Monuments and Forts of Deccan Sultanate

- The ‘Monuments of the Deccan Sultanate’ demonstrates the **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,
- It comprises of **four components** namely,
 - **Bahmani Monuments at Gulbarga, Karnataka**
 - It primarily comprises the **Gulbarga Fort with the Great Mosque** in the Fort, Jami Masjid and the **Haft Gumbad complex with seven tombs.**
 - Gulbarga was the **first capital of the Bahmani dynasty.**
 - **Bahmani and Barid Shahi Monuments at Bidar, Karnataka**
 - It includes monuments at Bidar dating from late **15th to the early 16th centuries** comprise of the Bidar Fort, the Madrasa Mahmud Gawan, the Bahamani tombs at Ashtur and the Barid Shahi tombs.
 - The significant feature of Bidar is the **sophisticated system of gates and sluices** (A sluice is a water channel controlled at its head by a gate.) that could be used when required to flood segments of the moat and thus preserve water.
 - **Adil Shahi Monuments at Bijapur, Karnataka**
 - These monuments date from the late **15th to the late 17th centuries.**
 - These are an ensemble of 80 small and big monuments including the fortifications, gates, water systems and tanks, several mosques and tombs and palatial structures.
 - The most remarkable monuments within the fort include the **Gol Gumbaz** which is the **second largest dome in the world.**
 - **Qutb Shahi Monuments at Hyderabad Andhra Pradesh**
 - It comprises of Golconda Fort, Qutb Shahi Tombs and Charminar that symbolize the **Qutb Shahi Dynasty.**
 - Golconda is a fortified citadel and an early capital city of the Qutb Shahi dynasty.
 - The tombs of QutbShahis are a mausoleum complex comprised of the tombs of the Royal family and the officials who faithfully served them.
 - Charminar is a ceremonial Gateway built to celebrate the foundation of Hyderabad, a new Millennial City, in 1591 A.D.

Indus Valley Civilisation

- The Indus Valley Civilisation (IVC), which is now more popularly referred to as the Harappan civilisation after Harappa, the first of its sites to be excavated in the 1920s by British archaeologist Sir Mortimer Wheeler.

- Harappan civilisation emerged on the banks of the river Indus in the second half of the third millennium BCE and spread across large parts of western India.
- Harappa and Mohenjo-Daro – the two major sites of this civilization – are among the earliest and finest examples of urban civic planning.
- The planned network of roads, houses and drainage systems indicate the planning and engineering skills that developed during those times.
- The Harappan Civilisation was widespread as it covered parts of India, Pakistan and Afghanistan.
- Harappan civilisation was a trade based civilization which had overseas trade links with Mesopotamia attested by the discovery of Harappan seals there and Mesopotamian carnelian beads here.

UNESCO's World Heritage Site 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.
- A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance. The list of World Heritage Sites is maintained by the international 'World Heritage Programme', administered by the UNESCO World Heritage Committee.

56. New forces in orbit

Context

As it looks at the growing role of the private sector and the effort by nations like the UAE and Luxembourg, Delhi needs to move quickly towards a new model for India's space activity.

Growing presence in the outer space

- **Outer space no longer a preserve of a few:** When you think of outer space, you think of big powers like the United States, Russia and China.
- You might also note the collective European effort under the European Space Agency as well as the impressive national space programmes of India and Japan.

- **Strategic or symbol of national pursuit:** Space programmes have for long been viewed as either strategic or symbols of national prestige **for big countries that are prepared to invest significant resources in the pursuit of a credible presence in outer space.**
- **Two small countries challenging the narrative:** Two small countries, the **United Arab Emirates in the Gulf and the Grand Duchy of Luxembourg** in Europe have begun to demonstrate that the outer space need not be the playing ground for big powers alone.
- Sceptics might think it is pretentious for the UAE with its native population of barely one million and Luxembourg with 600,000 people to think of a place for themselves in space.

UAE's presence in the space

- **Reminder for India:** The interesting path these two countries have set for themselves in outer space is a reminder that **Delhi needs to adapt to the rapidly changing dynamic in outer space.**
- **Hope Mars Mission:** That size is not a constraint is reflected in the UAE's plan to launch its Mars mission, "**Hope**", later this year in partnership with a range of organisations across the world – including three universities in the US.
- Japan is scheduled to launch the UAE Mars probe this year.
- **India's own ISRO is also working with the UAE on its Mars mission.**
- Last year, the **first Emirati Astronaut, Hazza al-Mansouri** spent more than a week in the US-Russian space station.
- **What are the reasons for the UAE's space strategy?** It is about cornering a slice of the rapidly growing commercial space industry – part of a major effort to diversify the UAE economy away from its reliance on hydrocarbons.

How Luxembourg is increasing its presence in the outer space

- **Commercial space as a major opportunity:** Over the years, Luxembourg moved away from its past reliance on the steel industry to become a centre of European banking and finance.
- It is now looking at commercial space as a major opportunity.
- **Regulatory steps:** Luxembourg has taken a number of regulatory steps to create a vibrant ecosystem for space companies ranging from satellite operations to future extraction of resources from asteroids and other space objects.
- **Expansion of the space sector:** At the moment, the space sector accounts for nearly **2 per cent of Luxembourg's GDP.**
- There are more than 50 companies and two public research organisations that are driving the expansion of space sector in Luxembourg.
- It entered the space sector only in the middle of the last decade. It is also driven by the need for economic diversification.
- **Leveraging new ideas:** UAE and Luxembourg do have a reputation for leveraging new ideas to transcend the limitations of their size in the world.

- But their space adventure was not possible without the structural changes that are reshaping the global space activity.

How space industry underwent a change over the years

- Preserve of national programs: Through the second half of the 20th century, outer space was the sole preserve of national space programmes driven by government-funding, direction and management.
- **The emergence of the private sector:** As military uses of space and prestige projects like Moon-landing emerged, major private sector entities already in the aviation industry like Boeing and Lockheed won space contracts in the US.
- **Collaboration with government:** The Pentagon and the National Aeronautics and Space Administration (NASA) told these companies what to do.
- **Expansion:** The last decades of the 20th century saw significant expansion of satellite-based telecommunication, navigation, broadcasting and mapping, and lent a significant commercial dimension to the space sector.
- As the digital revolution in the 21st century transformed the world economy, the commercial space sector has begun to grow in leaps and bounds.
- The global space business is now estimated to be around \$ 400 billion and is expected to easily rise to at least trillion dollars by 2040.
- **Rise of SpaceX:** One example of the rise of private sector companies in the space sector is SpaceX run by the US entrepreneur Elon Musk.
- Hired for a resupply mission for the space station, it now launches more rockets every year than NASA.
- The entry of the private sector has begun to drive down the cost-per-launch through innovations such as reusable rockets.

Scope of the expansion of the space industry

- **Decrease in launch cost and rise in ambition:** As launch costs came down, the private sector has become more ambitious.
- **Internet through space:** SpaceX plans to launch hundreds of satellites into the low-earth orbit to provide internet services. Amazon has plans to build a network of more than 3,000 satellites in the low-earth orbit.
- **Space tourism:** Musk and Amazon's Jeff Bezos have plans to develop space tourism and build human settlements on the Moon and on Mars.
- **Small private companies in the fray:** It is not just big companies that are aiming for the Moon. Last year, a private company in Israel sent a lunar lander to the Moon. Although the lander crashed, much like India's Vikram, the private sector has begun to do things that were once the monopoly of national agencies.

India not in synch with the global changes

- **Not adapting to the change:** India, however, is quite some distance away from adapting to the unfolding changes in the global space business.
- In its early years, India's space programme that was constrained by lack of resources found innovative ways of getting ahead in space.
- **Space sector dominated by the government:** Although the ISRO encourages private sector participation in the national space programme, its model is still very 20th century – in terms of governmental domination.

Conclusion

As it looks at the growing role of the private sector and the effort by nations like the UAE and Luxembourg, India needs to move quickly towards a new model for India's space activity. It needs a regulatory environment that encourages a more dynamic role for the private sector and promotes innovation.

57. Concentration of Black Carbon on Gangotri Glacier

Why in News

According to a research done by the **Wadia Institute of Himalayan Geology**, the **concentration of black carbon on Gangotri glacier has almost doubled in the past few years** primarily because of agricultural burning and forest fires.

- Scientists have been monitoring black carbon through two weather stations on way to **Gangotri glaciers** - namely Chirbasa station at a height of 3,600 m, and **Bhojbasa** station at a height of 3,800 m - for the last few years.
- Wadia Institute of Himalayan Geology (WIHG) is an **autonomous institution under the Department of Science & Technology**. It is headquartered in Dehradun (Uttarakhand).

Gangotri Glacier

- It is the **largest glacier in Uttarakhand** and is one of the **sources of Ganges** (Bhagirathi).
- The Gangotri glacier originates at the northern slope of **Chaukhamba range** of peaks in **Garhwal Himalayas**.
- Gangotri is not a single valley glacier, but a **combination of several other glaciers**.

Black Carbon

- Black carbon is a kind of an aerosol. An aerosol is a suspension of fine solid particles or liquid droplets in the air.
- Among aerosols (such as brown carbon, sulphates), Black Carbon (BC) has been recognized as the second most important anthropogenic agent for climate change and the primary marker to understand the adverse effects caused by air pollution.

- It gets emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It comprises a significant portion of particulate matter or PM, which is an air pollutant.

Key Findings

Seasonal Variation

- The concentration of the black carbon increases in summer months due to varied factors. Scientists have found a range of black carbon up to 4.62 micrograms per cubic metre.
- In the non-summer months, the concentration comes down to about 2 micrograms per cubic metre.

Reasons for Increase in Black Carbon Concentration in Summer Season

- Period from April to June shows remarkable increase in black carbon concentration primarily due to direct and indirect activities related to **tourism**.
- Also, forest fires contribute to increasing black carbon concentration. According to the Forest Survey of India, the forest fire activity is generally reported in Uttarakhand from February to June, with a peak in fire incidences in May and June.
 - Besides man made, other reasons for forest fires in the state include lightning, friction of falling rocks and monkeys accidentally throwing stones that create sparks leading to forest fires.
 - Over 44,554 hectares of forest area has been damaged in forest fires in Uttarakhand since its formation in 2000.
- The lowest black carbon concentration has been recorded during August followed by December, likely due to the absence of tourist activities and forest fire incidences during these months.

Local Sources of Black Carbon

- Forest fires, domestic and commercial fuel wood burning, seasonal burning of crop residue and developmental activities.
- Pollution from local, regional and global sources that accumulate over the Himalayan region and increase the concentration of black carbon.

Possible Impact

- Black materials absorb more light and emit infra-red radiation which increases the temperature. So, when there is an increase in black carbon in the higher Himalayas, it will contribute to faster melting of the Himalayan glaciers.
- In the longer run, the changes in the atmospheric composition of the high Himalayan will affect the weather pattern (such as rain and snow precipitation patterns), and accordingly natural resources and socio-economic activities of Himalayan communities.

Way Forward

- The Black Carbon (BC) aerosols contribute significantly towards global warming due to its light-absorbing nature. Their presence in the eco-sensitive zone, such as the Himalayan glacier valleys, is a matter of serious concern and needs to be meticulously monitored.

58. Pushing the wrong energy buttons (GS-3)

Context

For more than a decade, no major meeting between an Indian Prime Minister and a U.S. President has passed without a ritual reference to India's promise made in 2008 to purchase American nuclear reactors.

Issues in the nuclear deal

- **Construction of reactors:** During president Trump's visit, a techno-commercial offer for the construction of six nuclear reactors in India at the earliest date was considered.
- **More expensive:** Indeed, it has been clear for years that electricity from American reactors would be more expensive than competing sources of energy.
- **Prone to disasters:** Moreover, nuclear reactors can undergo serious accidents, as shown by the 2011 Fukushima disaster.
- **No liability for accidents:** Westinghouse has insisted on a prior assurance that India would not hold it responsible for the consequences of a nuclear disaster.
- Which is effectively an admission that it is unable to guarantee the safety of its reactors.

Who will be benefited from the deal?

- **The two beneficiaries:** The main beneficiaries from India's import of reactors would be Westinghouse and India's atomic energy establishment that is struggling to retain its relevance given the rapid growth of renewables.
- **Political implications:** Mr Trump has reasons to press for the sale too. His re-election campaign for the U.S. presidential election in November.
- The election centrally involves the revival of U.S. manufacturing and he has been lobbied by several nuclear reactor vendors, including Westinghouse.
- Finally, he also has a conflict-of-interest.

Comparisons with the renewables

- **The total cost of the reactors:** The six reactors being offered to India by Westinghouse would cost almost ₹6 lakh crore.
- If India purchases these reactors, the economic burden will fall upon consumers and taxpayers.

- **Per unit price:** In 2013, it was estimated that even after reducing these prices by 30%, to account for lower construction costs in India, the first year tariff for electricity would be **about ₹25 per unit.**
- **Comparison with solar energy:** Recent solar energy bids in India are around ₹3 per unit.
- Lazard, the Wall Street firm, estimates that wind and solar energy costs have declined by around 70% to 90% in just the last 10 years and may decline further in the future.

Safety concern with nuclear energy

- Long term cost in case of disasters: Nuclear power can also impose long-term costs.
- **Chernobyl accident:** Large areas continue to be contaminated with radioactive materials from the 1986 Chernobyl accident and **thousands of square kilometres remain closed off for human habitation.**
- **Fukushima accident:** Nearly a decade after the 2011 disaster, the Fukushima prefecture retains radioactive hotspots.
- **The cost of clean-up:** the cost of clean-up has been variously estimated to range from \$200-billion to over \$600-billion.
- **No liability towards company:** The Fukushima accident was partly caused by weaknesses in the General Electric company's Mark I nuclear reactor design.
- But that company paid nothing towards clean-up costs, or as compensation to the victims, due to an indemnity clause in Japanese law.
- **What are the provisions in Indian laws:** Westinghouse wants a similar arrangement with India. Although the Indian liability law is heavily skewed towards manufacturers, **it still does not completely indemnify them.**
- So nuclear vendors have tried to chip away at the law. Instead of resisting foreign suppliers, the Indian government has tacitly supported this process.

India's experience with nuclear energy

- Starting with the Tarapur 1 and 2 reactors, in Maharashtra, **India's experiences with imported reactors have been poor.**
- **The Kudankulam 1 and 2 reactors,** in Tamil Nadu, the only ones to have been imported and commissioned in the last decade, have been repeatedly shut down.
- **Producing less than capacity:** In 2018-19, these reactors produced just 32% and 38%, respectively, of the electricity they were designed to produce.
- These difficulties are illustrative of the dismal history of India's nuclear establishment.
- **Electricity generation stagnant at 3%:** In spite of its tall claims, the fraction of electricity generated by nuclear power in India has remained stagnant at about 3% for decades.

Conclusion

The above factors indicate that the government should take the rational decision on the adoption of nuclear energy given its cost and the risk involved and the better alternative available in the form of solar and other renewable energies.

59. Bottom or mirage? (GS-3)

Context:

- The NSO estimates of Gross Domestic Product for the third quarter of the financial year.

Details:

- The GDP growth for the **third quarter between October-December** has been estimated at 7%.
- This **marks a slowdown** compared to last year's third-quarter rate of 5.6% and the previous quarter's rate of 5.1%.

Sector-wise data:

Sectors indicating decline:

- **Manufacturing**, constituting around 20% of the gross value added (GVA), has contracted for a second straight quarter by **posting a 0.2% decline**. The manufacturing sector has been the biggest drag on the growth numbers.
- **The output of electricity and allied utility services also shrank 0.7%**, reflecting the lack of demand from the factories.
- **Activity in construction**, which helps generate demand for goods ranging from cement to steel, **softened to a 0.3% expansion**. This marks the construction industry's slowdown for a third consecutive quarter.

Sectors indicating growth:

- **Agriculture and the three largest services sectors, including public administration and defence, helped increase the overall GVA**, with farm output expanding by 3.5% and the government-centred services growing by 9.7%.

Recent indications of growth:

- The Central government has claimed that the current numbers seemed to indicate that the **economy may have "bottomed out"** and would only grow faster in the coming times.
- There has been an **improvement in output at the eight core industries**. The overall growth of the eight core industries that include coal, refinery products, steel,

cement and electricity averaged 2.2% in January, propelled by an 8% increase in coal production.

- The survey-based **IHS Markit India Manufacturing PMI for February 2020** has pointed to an improvement in manufacturing activity.

Concerns:

- A closer analysis of the available data seems to point out that **economic woes may still not be over for the Indian Economy**.

Statistical growth:

- There have been arguments from some academicians that **data revisions have helped lift growth numbers in the first half of the fiscal**, while the actual numbers reveal a softening of growth in India.
 - The downward revision of data for 2018-19 has lent a statistical boost of 0.6 percentage point to the first and second-quarter GDP growth estimates.

Gross Fixed Capital Formation (GFCF):

- The second-quarter GFCF figures have witnessed a **downward revision** from earlier projections.
- This marks the **second successive contraction** in capital formation in the Indian economy.
 - GFCF shrank 5.2% in the third quarter, after declining 4.1% over the second quarter of July-September.
- The figures seem to signal the fact that **investment activity is still not recovering**, despite focussed efforts from the government like the recent corporate tax cuts.

Private Final Consumption Expenditure (PFCE):

- The second-quarter PFCE figures have witnessed a **downward revision** from earlier projections.
- **Consumption spending too remains noticeably soft** with the pace of growth for all three quarters being lower than the previous fiscal levels.
- The prospects of growth in PFCE in the upcoming quarters seem bleak.
 - Automobile sales are still struggling with weak demand.
 - The **RBI's consumer confidence survey** points to a fall in non-essential consumption.
 - The **coronavirus outbreak's impact** on demand has not been factored in, which might indicate a possible downward revision in the coming times.

The data regarding private final consumption expenditure (PFCE) and gross fixed capital formation (GFCF), constituting key components of GDP seem to indicate the challenges for the Indian economy

60. India is host to 457 migratory fauna, shows latest CMS list (GS-3)

Context:

Migratory wildlife list released by the **Convention on the Conservation of Migratory Species (CMS)**.

Details:

- Recently, Gandhinagar in Gujarat played host to the **Conference of Parties (COP 13) of the CMS**.
- **The Zoological Survey of India (ZSI)** had for the first time compiled the list of migratory species of India under the CMS.
 - The ZSI report had 451 species listed out initially, with six species including the Asian elephant, great Indian bustard, Bengal florican, oceanic white-tip shark, urial and smooth hammerhead shark being added later.

As compared to the previous list, there have been new additions to the migratory wildlife list put out by the CMS.

Currently, **the total number of migratory fauna from India numbers 457 species.**

Birds:

- **Birds account for the largest share** of the migratory species, accounting for about 83% (380 species).
- The bird family **Muscicapidae has the highest number of migratory species.**
 - The Muscicapidae consist of small-sized birds mostly restricted to the Old World (Europe, Africa and Asia). These are mainly arboreal insectivores.

The next highest group of migratory birds is **raptors or birds of prey**, such as eagles, owls, vultures and kites which are from the family Accipitridae.

- Accipitridae is a family of small to large carnivorous birds with strongly hooked bills and variable morphology based on diet.

Another group of birds that migrate in large numbers are waders or shorebirds. In India, their migratory species number 41, followed by ducks (38) belonging to the family Anatidae.

- Waders are birds commonly found in coastal habitats, shorelines and mudflats that wade in order to forage for food (such as insects or crustaceans) in the mud or sand.

India has three main flyways of the nine flyways globally.

- A flyway is a geographical region within which a single or a group of migratory species completes its annual cycle – breeding, moulting, staging and non-breeding. In simpler terms, **flyways imply the flight paths used by the migratory birds.**
- **The Central Asian flyway, Asian East African Flyway**(covering parts of western India) and **East Asian–Australasian Flyway** (covering parts of eastern India).

Mammals:

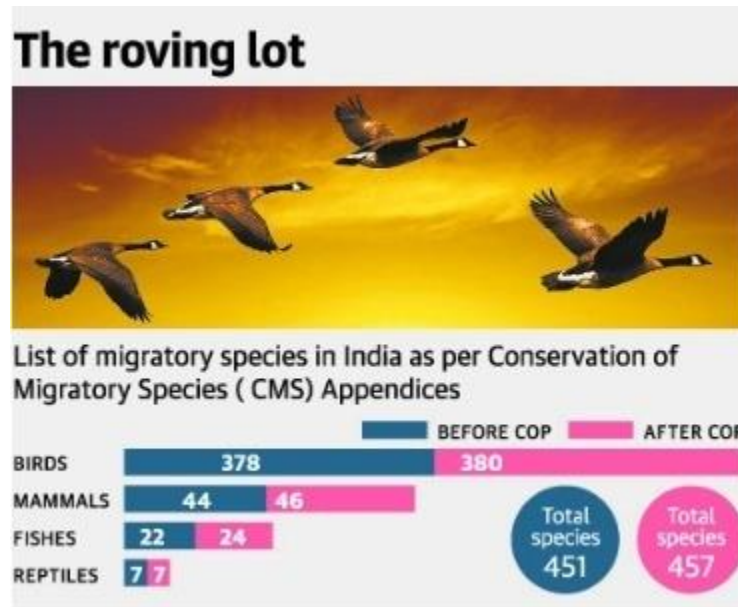
- The new list includes the Asian elephant (added to Appendix I) and the urial (added to Appendix II), increasing the total number of migratory mammal species in India under the list to 46 from the previous 44.
- **The largest group of mammals is bats** belonging to the family Vespertilionidae. Dolphins are the second-highest group of mammals with nine migratory species of dolphins listed.

Fishes:

- Fish make up another important group of migratory species. **There are 24 species of migratory fish in India.**
- Before COP 13, the ZSI had compiled 22 species, including 12 sharks and 10 ray fish. The oceanic white-tip shark and smooth hammerhead shark were then added.

Reptiles:

- **Seven reptiles**, which include five species of turtles and the Indian gharial and saltwater crocodile, are among the CMS species found in India. There were no new additions to the reptiles list.



Significance:

- The COP 13 has focussed on transboundary species and corridor conservation which account for an effective approach for conservation efforts.

India's role:

- With India alone accounting for around 450 species of the total 650 species globally listed under the CMS appendices, India plays a very important role in the conservation efforts.
- In this direction, India recently unveiled its **National Action Plan (NAP) for Conservation of Migratory Birds and their Habitats**.

61. Eurasian otter found in Chilika Lake (GS-3)

Context:

A study of the wildlife fauna in and around Odisha's Chilika Lake

Details:

- Researchers have found the presence of a viable, breeding population of a **fishing cat in the brackish water lagoon**. Another globally endangered species, **smooth-coated otter**, has also been recorded from the study's data.
 - The fishing cat and smooth-coated otter enjoy conservation measures of the highest accord in India according to the country's laws, much like the tiger and elephant.

The study has also recorded the presence of the **Eurasian otter** in Chilika.

- Despite being a widely-spread and common species globally, very little is known of the Eurasian otter's distribution and abundance in India and especially along the eastern coast.

Fishing cat:

- **The fishing cat (*Prionailurus viverrinus*) is a medium-sized wild cat.** The fishing cat is a globally endangered species that is elusive.
- The fishing cat hunts in water. It has specialized features like partially webbed feet and water-resistant fur that helps it to thrive in wetlands.
- The fishing cat is **predominantly nocturnal**.

Habitat:

- The fishing cat lives foremost in the **vicinity of wetlands**, along rivers, streams, oxbow lakes, in swamps, tidal creeks and mangroves.

Range of distribution:

- The fishing cats are found **in very few places in the south and south-east Asia**.
- It is broadly but discontinuously distributed in Asia and is primarily found in the **Terai region of the Himalayan foothills in India and Nepal, in eastern India, Bangladesh and Sri Lanka**.
- In India, fishing cats are mainly found in the **mangrove forests of the Sundarbans**, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys and in the **Western Ghats**.

Threats:

- Fishing cat populations have declined severely over the last decade.
- The fishing cat is **threatened by destruction of wetlands**, which are increasingly being polluted and converted for agricultural use and human settlements.
- The conversion of mangrove forests to commercial aquaculture ponds is a major threat.
- Another threat to the fishing cat is **depletion of its main prey-fish** due to unsustainable fishing practices and over-exploitation of local fish stocks.
- The fishing cats are also occasionally poached for its skin.

Conservation status:

- Since 2016, the fishing cat is **listed as Vulnerable on the IUCN Red List**, which means that it faces a high threat of extinction in the wild.
- The Convention on International Trade in Endangered Species (CITES) lists the fishing cat on **Appendix II of CITES**, which governs international trade in this species.

- In India, the fishing cat is included in **Schedule I of the Indian Wildlife (Protection) Act, 1972** and thereby protected from hunting.

Additional Information:

- The fishing cat is the **state animal of West Bengal.**