Targeted **CURRENT AFFAIRS** and Issues Update **AUGUST 2021** Schield IAS **RUSSIA AND BLACK SEA TRADITIONAL RAINWATER HARVESTING INDIA and SPACE SCIENCE**

RULE OF LAW vs. RULE BY LAW

ACADEMIC BANK OF CREDIT

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INTERNATIONAL RELATIONS

(Geopolitics; India and the World; India and it's Neighbourhood)

4 GRAND ETHIOPIAN RENAISSANCE DAM

- Ethiopia has built a giant hydropower dam on the Blue Nile and started holding back the water flow to fill the reservoir behind it for a second year.
- Egypt is worried the dam will affect the overall flow of the Nile River and together with fellow downriver country Sudan brought the issue to the UN Security Council in a bid to get a binding deal on the dam's operation.

What is the project about?

- The Grand Ethiopian Renaissance Dam (GERD) is the source of an almost decade-long diplomatic standoff between Ethiopia and downstream nations Egypt and Sudan.
- The \$4bn GERD was announced in early 2011 as Egypt was in political upheaval. It is the centrepiece of Ethiopia's bid to become Africa's biggest power



exporter, with a projected capacity of more than 6,000 megawatts.

- Though construction has been hit by delays, Ethiopia began filling the reservoir behind the dam in 2020. This initial two-year stage of filling is expected to bring the water level in the reservoir to 595 metres out of an eventual 632 metres.
- o Once it is finalised it will become Africa's largest hydroelectric power generator and the world's seventh-largest dam, according to reports in Ethiopia's state media.

Nile water

- o The Nile Basin river system flows through 11 countries. The Blue Nile and White Nile merge in Sudan before flowing into Egypt and on to the Mediterranean Sea.
- Egypt has based its share of the river's waters on a 1959 deal that gave it 55.5 billion cubic metres of water annually, and Sudan 18.5 billion cubic metres.
- o Other countries were not given allocations at that time and Ethiopia does not recognise the agreement.
- The dispute centres on how quickly Ethiopia should fill and replenish the reservoir, and how much water it 0 would release downstream in case of a multi-year drought.

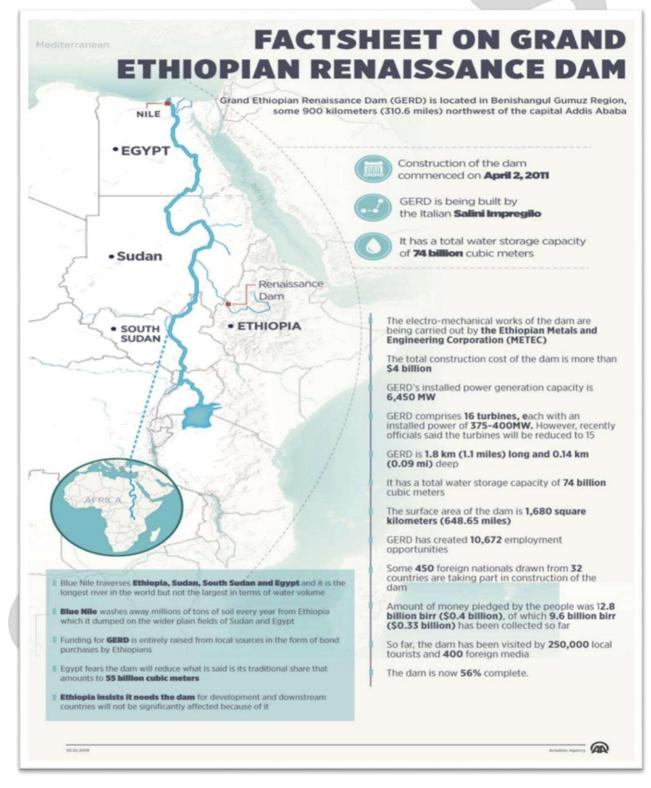
What does Egypt say?

- Egypt relies on the Nile for at least 90 percent of its freshwater. The largely desert country is already short of water. It imports about half its food products and recycles about 25 billion cubic metres of water annually.
- If water flows are restricted in drought conditions Egypt says it could lose more than one million jobs and \$1.8bn in economic production annually, though it acknowledges such a scenario is unlikely.
- Overall, Egypt has regarded the dam as an existential threat to its water supplies.



What is Sudan's position?

- Sudan does not face shortages in its Nile water supplies and it could gain from the dam's electricity generation, as well as flood mitigation.
- However, Sudan is concerned about the safety of the dam, which lies just on the other side of its border with Ethiopia.
- Sudan has called for information sharing in order to minimise the effect on its own dams and water stations, and took precautionary measures at its own dams before the GERD's second filling, citing a lack of data from Ethiopia.





4 RUSSIA AND BLACK SEA

- o 436,400 km2 in size, the Black is located in Eurasia, surrounded by Europe, Caucasus and Anatolia.
- This body of water is also surrounded by the **Pontic, Caucasus,** and **Crimean Mountains** in the south, east and north respectively. It is also constrained by the **Strandzha mountains** to the southwest and **Dobrogea Plateau** to the northwest.
- With a maximum depth of 2,212 m, this inland sea is a meeting point of a number of rivers such as the **Danube**, **Southern Bug**, **Dnieper**, **Rioni** and **Dniester**.
- The Black Sea connects with the Mediterranean Sea through the **Bosporus Strait**, and then through the **Sea of Marmara** and the **Dardanelles Strait**. The Black sea also links with the **Aegean Sea** and the **Sea of Crete** before meeting the Mediterranean.
- The Black Sea is bordered by **Bulgaria**, **Georgia**, **Romania**, **Russia**, **Turkey** and **Ukraine**, making it a region of strategic importance and a potential maritime flashpoint.
- Russia invaded Ukraine in 2014 and carved off the strategically vital peninsula of **Crimea**, the largest land grab from a sovereign state in this century. Since then, he has supplied money, training, arms and military advisers to separatist forces in the **Donbas region** of southeast Ukraine.
- The recent buildup 0 was probably a signal to the West of how relentless Vladmir Putin be will on pressuring Ukraine, of his deep and opposition to it joining the North Atlantic Treaty Organization.
- It was also a distraction from his persecution of opposition leader Alexey Navalny, and played well with Putin's base in Russia, where his approval rating soared during the



Crimea annexation. Finally, the buildup allowed the Russian military a pretty effective practice run, in case Putin does decide to invade across the border.

- Although one should never underestimate Putin's ability to surprise his geopolitical rivals, this doesn't seem like the moment for a full-blown land incursion. Putin is already financially overextended with his overseas adventures. Reconstructing Syria will come with a huge bill. Support to Ukrainian separatists is expensive. He has a great appetite for expensive new weapons (militarizing space, for example). And he remains under significant sanctions from the West. What he may choose to do instead is look seaward, and consolidate his control over the waters of the Black Sea.
- Sailing through Turkey's narrow Bosporus strait at the entrance to this significant body of water indicates its strategic importance. About one third the size of the Gulf of Mexico, the Black Sea is bordered by Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine. The mix of languages, cultures, alliance memberships and economic size among these nations is striking — as is the long history.
- **NATO has three full alliance members among this group (Turkey, Romania and Bulgaria),** and **two close partners** in Ukraine and Georgia (Russia occupies land in both). Like the South China Sea, this is a potential maritime flashpoint. Additionally, it is likely to become a rich source of hydrocarbons, which will only exacerbate tensions in the region, as described in a recent study by the Atlantic Council.



- Russia wanted Crimea principally because it has excellent ports and commands the sea lanes between Russia and Ukraine. In late 2018, the Russian navy and coast guard seized three Ukrainian military vessels as the ships were trying to enter the Black Sea through the **Kerch Strait**, a narrow passage separating Russia and the Crimean Peninsula.
- That level of tension has returned. In April this year, the Pentagon announced it would send two guidedmissile destroyers into the Black Sea, which Russia's deputy foreign minister, Sergei Ryabkov, called "extremely provocative." Although the U.S. abruptly canceled the ships' deployment, the Kremlin is shutting off coastal areas near Crimea to foreign warships.
- When Russia invaded Ukraine in 2014, Putin's military used a brew of tactics and procedures. Offensive cyberwarfare, unmarked special forces (the so-called little green men), clandestine attacks on transportation nodes, propaganda over social networks, and lightning-quick conventional strikes were part of the mix. No doubt, Putin has a maritime version of this playbook.
- The objective would be to neutralize the Ukrainian naval forces, gain complete sea control in the northern Black Sea, cut off Ukrainian military forces from their supply lines, and obtain dominance over a section of land that could connect Russia with Crimea.
- The U.S. and NATO would object strenuously. But Ukraine isn't covered under NATO's **"an attack on one is an attack on all"** security guarantee.
- Hence the risk of conflict persists.

4 AFGHANISTAN: WATERLOO OF SUPERPOWERS

- The reason for the U.S.'s failure is no different from that of the Soviets; India too can hardly impact the ground situation
- Mikhail Gorbachev became General Secretary of the Communist Party of the Soviet Union in March 1985. By then Soviet forces had been in Afghanistan for over five years. They had failed to successfully combat the mujahideen groups, most of whom were based in Pakistan. The mujahideen received crucial support from the United States but the critical factor was their Pakistan base.
- Secure with the U.S. fully behind it, Pakistan knew that the Soviet Union would not risk crossing the Durand Line to take armed action on Pakistani territory.
- In his insightful book, The Great Game in Afghanistan: Rajiv Gandhi, General Zia and the Unending War, Kallol Bhattacherjee records that immediately after becoming the Soviet Union's supreme leader, Mr. Gorbachev had met the Pakistani dictator in Moscow. He had warned him that "Moscow would ensure that Pakistan faces the consequences of backing the mujahideen". Zia was unfazed by the threat because he knew that the new Soviet leader was posturing.

From the USSR to the U.S.

- Thirty-two years later, the wheel of history had turned. It was the United States which was bogged down in Afghanistan. For 16 years it had, despite a military surge, failed to quell the Taliban insurgency even though the group merely had the support of Pakistan.
- The reason for the U.S.'s failure was no different from that of the Soviets. It could not carry the war into the territory of Pakistan, now armed with nuclear weapons; destabilising such a state would have incalculable consequences.

A thread in these approaches

- Within a year of taking over, Mr. Gorbachev was convinced that the Soviet Union's Afghan quest was futile. In February 1986 he told the Communist Party that Afghanistan had become a "bleeding wound". He now decided to prepare for the retreat of the Soviet forces. His aim was to have an orderly withdrawal. He also abandoned the idea of leaving behind a "socialist" government and sought to have a broad-based one which would include the mujahideen.
- Fourteen months after warning Pakistan of serious consequences in his **August 2017 policy announcement**, Mr. Trump too caved in and authorised talks between U.S. diplomats and Taliban



representatives in Doha. In these talks, the U.S.'s principal objective was to secure a Taliban guarantee that it would not harbour international terrorist groups in territories under its control.

- And, like the Soviet Union over three decades ago the U.S. too accepted the idea of an Afghan interim administration which included the Taliban. The February 2020 U.S.-Taliban agreement, which Mr. Trump's successor President Joe Biden has honoured, marked the strategic defeat of the world's pre-eminent global power.
- It was reminiscent of the Geneva Accords of 1988 which were a strategic defeat of a then superpower, the Soviet Union. They both paved the way for the safe withdrawal of foreign forces.
- From 1986 to 1988, the Soviets tried hard to put in place an inclusive government in Afghanistan. Najibullah, a forceful if brutal Afghan leader of Pashtun ethnicity, became President in 1986. He virtually abandoned communist ideology for Afghan nationalism and stressed the country's Islamic heritage. He reached out to all sections of Afghan society. The U.S. and



Pakistan seemed to go along with the idea of an inclusive government as long as the final assurance of Soviet withdrawal was not gained.

The Indian initiative

- Significantly, India too advocated a broad-based government and Prime Minister Rajiv Gandhi was in the forefront in advocating it. India took active measures, including contacting the former King Zahir Shah, living in exile in Rome, to lead it. This annoyed the U.S. and Pakistan. Both wanted India to assume a non-operational position on Afghan developments and restrict its role to pressing the Soviets to leave. Once it became clear that Pakistan wanted a mujahideen government without Najibullah's participation or Zahir Shah's leadership, India decided to fully support the Najibullah government. This even before the last Soviet soldier left Afghanistan in February 1989.
- India at that time had reached out to all sections, including the mujahideen inside Pakistan and Afghanistan. This showed that Rajiv Gandhi's government pursued the requirements of realpolitik: even while firmly supporting Najibullah he was not averse to acknowledge, at the highest political level, that if Indian interests demanded so, India would not hesitate to do business with any Afghan group howsoever regressive its ideology.
- India's 2021 Afghan dilemma mirrors, to an extent, the one it faced post the Soviet withdrawal in 1989. There is a major difference though. In 1989, Kabul was led by a strong Afghan leader, Najibullah, who had the capacity to hold the situation together with Soviet assistance. That was forthcoming, for while the Geneva Accords provided that neither side would help their protégés, they continued to do so. Thus, for three years, Najibullah kept the mujahideen at bay. It was with the collapse of the Soviet Union in 1991 that the political unity of Kabul frayed. With that the army fragmented, paving the way for the mujahideen to take over in April 1992.
- Soon enough, intra-mujahideen conflict resulted in complete instability in the country. That set the stage for the rise of the Taliban with Pakistani assistance. The internecine mujahideen hostilities, fortunately, provided India strategic opportunities to influence the ground situation in Afghanistan along with Iran and Russia. But fortune does not smile at all times.



Afghanistan today

- Now, like Rajiv Gandhi in the 1986-1988 period, Indian foreign policy and security managers are advocating the formation of an inclusive government. So, ostensibly are the western powers including the U.S. The problem is that Afghanistan President Ashraf Ghani is no Najibullah. His capacity to hold Kabul together is questionable.
- Besides, the Kabul political elite is at odds with itself and if it frays, will the Afghan National Security Forces remain united? The extent to which the U.S. will be willing to support Kabul post August 31 (the date of complete withdrawal) remains to be seen. This situation of total flux could have been easily foreseen.
- Equally, the need for maintaining open and direct contacts with all Afghan political parties could also have been anticipated only if pragmatic and correct strategic attitudes had guided Indian policy.
- Notwithstanding all the appropriate diplomatic noises India may make, it has now no real capacity to impact the ground situation in Afghanistan. And, even if the best option for India comes to pass the formation of an inclusive government its absence of open contacts with the Taliban will place it at a great disadvantage.

4 ORGANISATION OF ISLAMIC COOPERATION (OIC)

- The Organisation of Islamic Cooperation (OIC) has membership of **57 states spread over four continents**. The Organization is the collective voice of the Muslim world. It endeavors to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among various people of the world.
- The Organization was established upon a decision of the historical summit which took place in Rabat, Kingdom of Morocco on 25th September 1969 following the criminal arson of Al-Aqsa Mosque in occupied Jerusalem.
- The membership includes Afghanistan, Algeria, Bahrain, Bangladesh, Benin, Brunei, Burkina Faso, Cameroon, Chad, Comoros, Djibouti, Egypt, Gabon, The Gambia, Guinea, Guinea-Bissau, Indonesia, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Malaysia, Maldives, Mali, Mauritania, Morocco, Niger, Oman, Pakistan, the Palestinian Authority (PA), Qatar, Saudi Arabia, Senegal, Sierra Leone, Somalia, Sudan, Syria (suspended), Tunisia, Turkey, Uganda, United Arab Emirates, and Yemen.
- In 1970, the first ever meeting of Islamic Conference of Foreign Minister (ICFM) was held in Jeddah which decided to establish a **permanent secretariat in Jeddah** headed by the organization's secretary general. Dr. Yousef Ahmed Al-Othaimeen is the 11th Secretary General who assumed the office in November 2016.
- The first OIC Charter was adopted by the 3rd ICFM Session held in 1972. The Charter laid down the objectives and principles of the organization and fundamental purposes to strengthen the solidarity and cooperation among the Member States. Over the last 40 years, the membership has grown from its founding members of 30 to 57 states.
- The Charter was amended to keep pace with the developments that have unraveled across the world. The present Charter of the OIC was adopted by the Eleventh Islamic Summit held in Dakar in 2008 to become the pillar of the OIC future Islamic action in line with the requirements of the 21st century.
- The Organization has the singular honor to galvanize the Ummah into a unified body and have actively represented the Muslims by espousing all causes close to the hearts of over 1.5 billion Muslims of the world. The Organization has consultative and cooperative relations with the UN and other intergovernmental organizations to protect the vital interests of the Muslims and to work for the settlement of conflicts and disputes involving Member States. In safeguarding the true values of Islam and the Muslims, the organization has taken various steps to remove misperceptions and has strongly advocated elimination of discrimination against Muslims in all forms and manifestations.
- The Member States of the OIC face many challenges in the 21st century and to address those challenges, the **Third Extraordinary Session of the Islamic Summit** held in Makkah in December 2005, laid



down the blue print called the **Ten-Year Program of Action**. It successfully concluded with the close of 2015. A successor programme for the next decade (2016-2025) has since then been adopted.

- The new programme OIC-2025 is anchored in the provisions of the OIC Charter and focuses on 18 priority areas with 107 goals. The priority areas include issues of Peace and Security, Palestine and Al-Quds, Poverty Alleviation, Counter-terrorism, Investment and Finance, Food Security, Science and Technology, Climate Change and Sustainability, Moderation, Culture and Interfaith Harmony, Empowerment of Women, Joint Islamic Humanitarian Action, Human Rights and Good Governance, among others.
- Among the OIC's **key bodies**: the Islamic Summit, the Council of Foreign Ministers (CFM), the General Secretariat, in addition to the Al-Quds Committee and three permanent committees concerned with science and technology, economy and trade, and information and culture. There are also specialized organs under the banner of the OIC including the Islamic Development Bank and the Islamic Educational, Scientific and Cultural Organization, as well as subsidiary and affiliate organs that play a vital role in boosting cooperation in various fields among the OIC member states.

4 ITALY AND INDO-PACIFIC

One of the signs of India's growing centrality in the Indo-Pacific strategic architecture is its burgeoning engagement with key western nations. Even countries which have been lackadaisical in their regional outreach so far have begun to approach the Indo-Pacific with a new seriousness and have been reaching out to India.

- The growth of India's weight in Indo-Pacific affairs comes at a time when it is becoming clearer that complex regional geopolitical problems cannot be addressed adequately by rigid and structured traditional alliance frameworks. This aspect is even more evident in the context of the **Indo-Pacific**, where the geographical vastness of the area and the criticality of the challenges posed by China's assertive initiatives clash with a region lacking multilateral organisations capable of solving problems effectively.
- But as a new pushback against China takes shape and as Indian foreign policy becomes strategically clearer, there is a new momentum to initiatives such as the Quad. Countries that share similar values and face similar challenges are coming together to create purpose-oriented partnerships.
- In doing so, they are making it possible for participating nations to address specific common challenges, from maritime security to a coordinated pandemic



response, including consolidating and further developing strong reciprocal trade relationships, without compromising the political autonomy of each participant.

Italy's outreach

• Recently, Italy has also begun to signal its intention to enter the Indo-Pacific geography. It has done so by seeking to join India and Japan in a trilateral partnership. This initiative comes after years of Italy's relative absence from the geopolitical affairs of the region as it sought to concentrate more on the Atlantic



and European dimensions while maintaining good, albeit well below potential, bilateral relations with India.

- The Italian government headed by **Prime Minister Mario Draghi** has started to pay attention outside its immediate neighbourhood again. At the same time, Italy has become more vocal on the risks emanating from China's strategic competitive initiatives.
- Recently, Mr. Draghi described Chinese competitive practices as "unfair" and invited the European Union (EU) to be franker and more courageous in confronting Beijing on its violations of human rights, reiterating that with respect to China "the reciprocal visions of the world are very different".
- On the Indian side, there is great interest in forging new partnerships with like-minded countries interested in preserving peace and stability in the Indo-Pacific. During a recent India-Italy-Japan trilateral, organised by the Italian embassies in India and Japan, India reiterated that the responsibility of keeping the Indo-Pacific free and open, and working for the welfare of its inhabitants falls on like-minded countries within and beyond the region.

Need for a clear strategy

- With the expression of interest on the Italian side, the first step towards this trilateral has been taken, yet it needs to evolve into something more significant. The Italian government must formulate a clear Indo-Pacific strategy that must indicate its objectives and, above all, the means and initiatives it is willing to implement on its own and in cooperation with its partners.
- Italy's tendency to privilege diplomatic action through the mechanisms of the EU can be a resource for consolidating the EU-India strategic relationship. But Rome must go beyond that in defining and implementing, at the margins of the EU's common initiatives, its own policy with respect to the Indo-Pacific.

Trilateral cooperation is key

- The India, Italy and Japan trilateral initiative can, and should, be a forum to foster and consolidate a strategic relationship between these three countries, and specifically expand India-Italy bilateral relations. As it stands, relations between Italy and Japan are historically strong, and those between India and Japan are a strategic pillar of the free and open Indo-Pacific.
- A trilateral cooperation can be the right forum for India and Italy to learn more from each other's practices and interests and consolidate a strategic dialogue that should include the economic, the security and the political dimensions.
- The next G20 leaders' summit in Rome, in October, before the presidency handover to India in 2023, should be the right opportunity for further trilateral coordination on economic and political issues at an institutional level. To consolidate the trilateral cooperation in this field, the three countries need to define a common economic and strategic agenda.
- A strategic trilateral between India, Italy and Japan has, in the medium to long term, a lot of potential. Their compatible economic systems can create a virtuous and mutually beneficial contribution to the reorganisation of the global supply chains that is now being reviewed by many players as a natural result of the Chinese mismanagement of the COVID-19 pandemic.
- At the security level, the well-defined India-Japan Indo-Pacific partnership can easily be complemented by Italy, already present in the western Indian Ocean where it is engaged in anti-piracy operations off the coast of Somalia.
- At the multilateral level, the three countries share the same values and the same rules-based world view. Despite these fundamental convergences, the risk inherent in missing this opportunity also exists.
- For this reason, a clear political will is needed from all sides, and Italy, in particular, should recognise its interests in playing a larger role towards the maintenance of a free and open Indo-Pacific. Robust India-Italy strategic ties can be the first step towards the realisation of this goal.



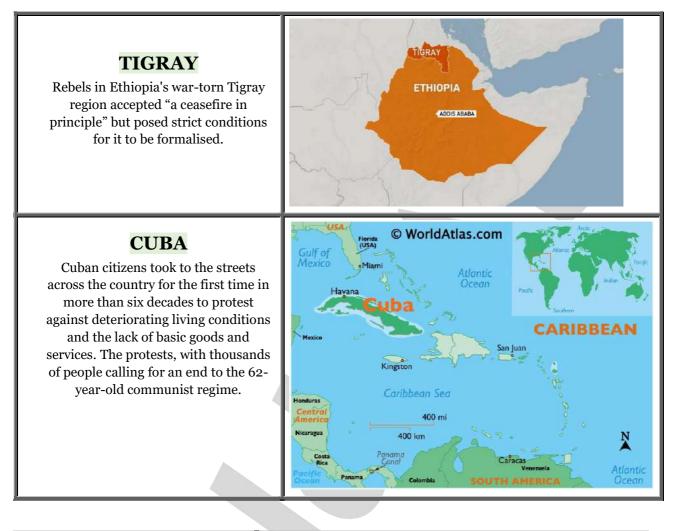
4 NEW QUAD

- The **US**, **Afghanistan**, **Pakistan** and **Uzbekistan** have agreed in principle to establish a new quadrilateral diplomatic platform focused on enhancing regional connectivity.
- The parties consider **long-term peace and stability in Afghanistan critical** to regional connectivity and agree that peace and regional connectivity are mutually reinforcing.
- Recognising the historic opportunity to open flourishing interregional trade routes, the parties intend to cooperate to expand trade, build transit links, and strengthen business-to-business ties.
- $\circ~$ The parties agreed to meet in the coming months to determine the modalities of this cooperation with mutual consensus.
- Afghanistan's strategic location has for a long time been touted as a competitive advantage for the country. Afghanistan is bordered by Pakistan to the east and south, Iran to the west, Turkmenistan, Uzbekistan, and Tajikistan to the north, and China to the northeast.
- Located at the heart of the **historic Silk Road**, Afghanistan was long the crossroads of commerce between Asian countries connecting them to Europe, and enhancing religious, cultural, and commercial contacts.
- The formation of the new quad group is important amid China's desire to extend its Belt Road Initiative (BRI) to Afghanistan.
- The BRI, a multi-billion-dollar initiative launched by Chinese President Xi Jinping when he came to power in 2013, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.
- By virtue of its location, Afghanistan can provide China with a strategic base to spread its influence across the world.
- Since the announcement of the withdrawal of U.S. forces by August 31, violence has been rising and efforts to broker a peace settlement between the Afghan government and insurgent Taliban have slowed.



© LOCATION IN CURRENT NEWS



















GEOGRAPHY AND ENVIRONMENT

(Ecology; Biodiversity and Disaster Management)

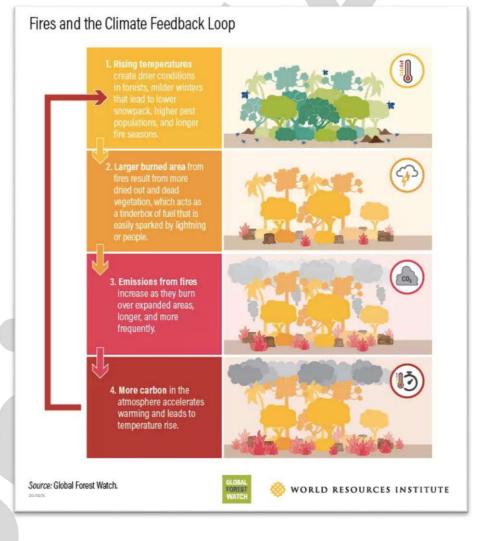
4 WILDFIRES AND CLIMATE CHANGE

Climate change has been a key factor in increasing the risk and extent of wildfires across the world - *in the Western United States, Greece, Turkey etc.*

- Wildfire risk depends on a number of factors, including temperature, soil moisture, and the presence of trees, shrubs, and other potential fuel.
- o All these factors have strong direct or indirect ties to climate variability and climate change.
- Climate change enhances the drying of organic matter in forests (the material that burns and spreads wildfire), and has doubled the number of large fires between 1984 and 2015 in the western United States.

Wildfire can affect:

- Country Budgets: For e.g. U.S. Forest Service fire suppression expenditures had increased from about 15 percent of the agency's appropriated budget to more than 50 percent in 2017. Nationwide suppression costs in 2017 and 2018 ballooned to \$2.9 billion and \$3.1 billion respectively. while wildfire state expenditures have also increased substantially.
- Public Health: The \cap growing number of people in wild lands is increasing the risk to life, property and public health. Smoke reduces air quality and can cause eye and respiratory illness, especially among children and the elderly. Wildfires that burn in residential areas can melt plastic water pipes and cause contamination of water systems with a known carcinogen.



• **Natural Environment:** Wildfires are a natural part of many ecosystems. Although wildfires produce a number of greenhouse gases and aerosols including carbon dioxide, methane, and black carbon, the plants that re-colonize burned areas remove carbon from the atmosphere, generally leading to a net neutral effect on climate. However, when fires burn more frequently and consume larger areas, as they are doing with



climate change, the released greenhouse gases may not be completely removed from the atmosphere if plants can't grow to maturity before burning, or if the plants that re-colonize are less efficient at carbon uptake.

How to Build Resilience?

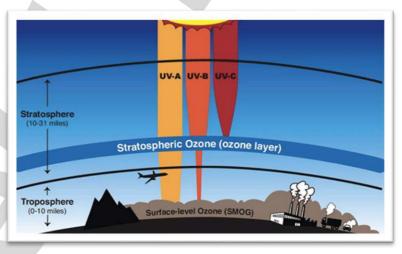
Communities, builders, homeowners, and forest managers can reduce the likelihood and impacts of wildfires by:

- o Discouraging developments (especially residential) near fire-prone forests through smart zoning rules.
- $\circ\,$ Increasing the space between structures and nearby trees and brush, and clearing space between neighboring houses.
- o Incorporating fire-resistant design features and materials in buildings.
- \circ $\,$ Increasing resources allocated to firefighting and fire prevention.
- o Removing fuels, such as dead trees, from forests that are at risk.
- Developing recovery plans before a fire hits, and implementing plans quickly after a fire to reduce erosion, limit flooding, and minimize habitat damage.

4 OZONE LAYER

Two facets of Ozone: Near the ground, ozone is an air pollutant that causes lung damage and asthma attacks. But 10 to 30 miles above the Earth's surface (16-48 km), ozone molecules protect life on Earth. They help shield our planet from harmful solar radiation.

- The ozone layer, in the stratosphere, is where about 90% of the ozone in the Earth system is found. But ozone makes up only one to ten out of every million molecules in the ozone layer. (*The rest of the molecules are mostly nitrogen and oxygen, like the air we breathe.*) There isn't much of it, but ozone is powerful, able to block the most harmful radiation.
- Ozone absorbs the most energetic wavelengths of ultraviolet light, known as UV-C and UV-B, wavelengths that harm



living things. Oxygen molecules absorb other forms of ultraviolet light, too.

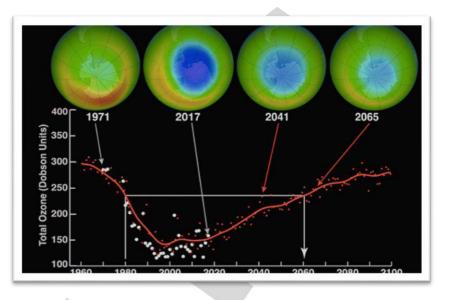
- Together, ozone and oxygen molecules are able to absorb 95 to 99.9% of the ultraviolet radiation that gets to our planet. When UV light is absorbed by oxygen and ozone, heat is generated, which is why the stratosphere gets warmer with altitude.
- **Ozone and oxygen molecules are constantly being formed, destroyed, and reformed in the ozone layer** as they are bombarded by ultraviolet radiation (UV), which breaks the bonds between atoms, creating free oxygen atoms.
- Free oxygen atoms are highly reactive, meaning that they bond easily with other molecules. If a free oxygen atom bumps into an oxygen molecule (O2), it will form ozone (O3). If a free oxygen atom bumps into another oxygen atom, it will form an oxygen molecule (O2).

Ozone Holes

 British scientists at Halley Bay, Antarctica have detected a 10% drop in ozone levels during September, October, and November—the Antarctic spring. Since ozone concentrations over this region often vary from season to season, the researchers weren't concerned, but record low ozone levels kept occurring nearly every spring. No one knew why.



- They were the first to find an ozone hole and it would later be identified as the world's largest ozone hole. An ozone hole is really not a hole but **rather a thinning of the ozone layer in the stratosphere that changes seasonally.** At some times of year, the "hole" is larger. At other times, it's smaller.
- It wasn't until 1985 that 0 scientists were certain that this was a major problem and it was human-caused. The culprits were chemical compounds called chlorofluorocarbons (CFCs), which started to be used in the 1960s in air conditioners, aerosol sprav cans, and industrial cleaning products. They were also used to make Styrofoam. And they were capable of breaking apart ozone molecules, causing the breakdown of ozone in the stratosphere to happen faster than it could be built back up.



- **UV radiation breaks a chlorine atom off a CFC molecule**. The chlorine atom breaks an ozone molecule apart **into an oxygen molecule (O2)** and a **chlorine monoxide molecule (ClO).** A free oxygen atom bumps the chlorine atom out, forming an oxygen molecule. This leaves the chlorine atom free to attack and destroy another ozone molecule.
- Once in the atmosphere, CFCs drift slowly upward to the stratosphere, where they are broken up by ultraviolet radiation, releasing chlorine atoms, which are able to destroy ozone molecules.
- The seasons have an impact on the Antarctic ozone hole. During the dark winter, air swirls in a vortex with very low temperatures that cause icy clouds to form. Reactions on the surface of icy cloud particles release chlorine from chemical compounds like CFCs, into a form that reacts with ozone. When sunlight returns in the spring, the chlorine begins to destroy ozone.
- There isn't much ozone depletion in the Arctic because icy clouds are less common and the vortex normally breaks down several weeks before sunlight returns in the spring.

Solving the Problem of Ozone Destruction

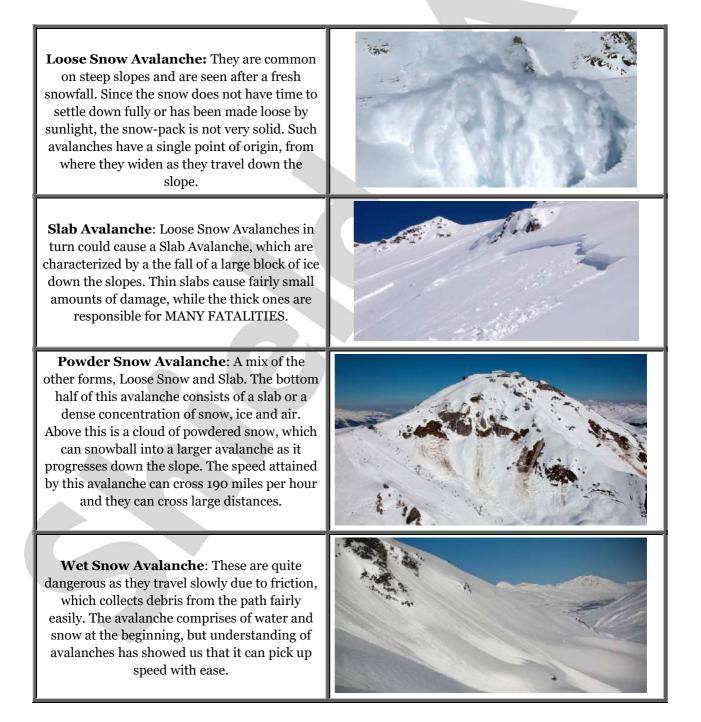
- The **Montreal Protocol**, an international agreement to address the global problem of ozone destruction, was signed by more than 70 countries in 1986. It set goals of reducing CFC production 20% by 1993 and 50% by 1998. Since the agreement was signed, these targets have been strengthened to call for the elimination of the most dangerous CFCs by 1996 and for regulation of other ozone-depleting chemicals.
- Scientists detected the problem and identified the cause of the problem. Their evidence convinced governments around the world to take action to help stop the problem. The global elimination of ozone-depleting chemicals from the atmosphere will take decades, but we have made progress on filling in the hole. It was the first time in history that we tackled a global-scale environmental issue with worldwide cooperation.

4 AVALANCHE

• An avalanche is a **mass of snow that slides rapidly down an inclined slope**, such as a mountainside or the roof of a building. Avalanches are **triggered by either natural forces** (e.g. precipitation, wind drifting snow, rapid temperature changes) or **human activity**. In mountainous terrain, they are among the most serious hazards to human life and property. Avalanches are sometimes called **snowslides**.



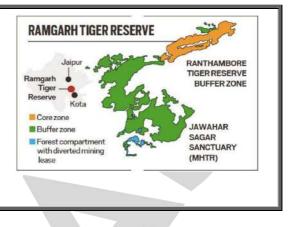
- An avalanche occurs when stress from the pull of gravity and/or applied load (such as a skier) exceeds the strength of the snow cover.
- Strength is derived from bonds between snow grains. A slab (a cohesive layer within the snowpack) avalanche can occur when the following three conditions are present: A snow-covered slope A slab of snow resting on top of a weak layer of snow A triggering mechanism.
- About 90% of all avalanches begin on slopes of **30-45 degrees**, and about 98% occur on slopes of 25-50 degrees. Avalanches strike most often on slopes above timberline that face away from prevailing winds (leeward slopes tend to collect snow blowing from the windward sides of ridges). However, it is possible for avalanches to run on small slopes well below timberline, such as in gullies, road cuts, and small openings in the trees.
- Very dense trees can help anchor the snow to steep slopes and prevent avalanches from starting; however, avalanches can release and travel through a moderately dense forest.





ARAMGARH VISHDHARI SANCTUARY

- After the Centre's nod for creation of the Ramgarh Vishdhari sanctuary, the Rajasthan government is hoping to develop a tiger corridor connecting three tiger reserves passing through districts including Sawai Madhopur, Kota and Bundi.
- Tiger corridor connecting **Ranthambore**, **Ramgarh Vishdhari** and **Mukundra**.



4 TIDAL WAVES

- Tides are the daily rise and fall of sea level at any given place. The **pull of the Moon's gravity on Earth** is the primarily cause of tides and the pull of the Sun's gravity on Earth is the secondary cause.
- The Moon has a greater effect because, although it is much smaller than the Sun, it is much closer. The Moon's pull is about twice that of the Sun's.

Daily Tide Patterns

- To understand the tides it is easiest to start with the effect of the Moon on Earth. As the Moon revolves around our planet, its gravity pulls Earth toward it. The lithosphere is unable to move much but the water above it is pulled by the gravity and a bulge is created. This bulge is the high tide beneath the Moon.
- The Moon's gravity then pulls the Earth toward it, leaving the water on the opposite side of the planet behind. This creates a second high tide bulge on the opposite side of Earth from the Moon. These two water bulges on opposite sides of the Earth aligned with the Moon are the high tides.
- Since so much water is pulled into the two high tides, low tides form between the two high tides. As the Earth rotates beneath the Moon, a single spot will experience two high tides and two low tides every day.
- The tidal range is the difference between the ocean level at high tide and the ocean at low tide. The tidal range in a location depends on a number of factors, including the slope of the seafloor. Water appears to move a greater distance on a gentle slope than on a steep slope.

Monthly Tidal Patterns

- Waves are additive so when the gravitational pull of the Sun and Moon are in the same direction, the **high tides add and the low tides add.**
- Highs are higher and lows are lower than at other times through the month. These more extreme tides, with a greater tidal range, are called **spring tides**.
- Spring tides don't just occur in the spring; they occur whenever the **Moon is in a new-moon or full-moon phase**, about every 14 days.
- **Neap tides** are tides that have the smallest tidal range, and they occur when the Earth, the Moon, and the Sun form a 90 degree angle. They occur exactly halfway between the spring tides, when the Moon is at first or last quarter.
- How do the tides add up to create neap tides? The Moon's high tide occurs in the same place as the Sun's low tide and the Moon's low tide in the same place as the Sun's high tide. At neap tides, the tidal range relatively small.



High tides occur about twice a day, about every 12 hours and 25 minutes. The reason is that the Moon takes 24 hours and 50 minutes to rotate once around the Earth so the Moon is over the same location 24 hours and 50 minutes later. Since high tides occur twice a day, one arrives each 12 hours and 25 minutes.

Note: Some coastal areas do not follow this pattern at all. These coastal areas may have one high and one low tide per day or a different amount of time between two high tides. These differences are often because of local conditions, such as the shape of the coastline that the tide is entering.

4 TRADITIONAL RAINWATER HARVESTING

Jhalara: are typically rectangular-shaped stepwells that have tiered steps on three or four sides. These stepwells collect the subterranean seepage of an upstream reservoir or a lake.

Jhalaras were built to ensure easy and regular supply of water for religious rites, royal ceremonies and community use. The **city of Jodhpur** has eight jhalaras, the oldest being the Mahamandir Jhalara that dates back to 1660 AD.

Talab /Bandhi: Talabs are reservoirs that store water for household consumption and drinking purposes. They may be natural, such as the **pokhariyan ponds** at Tikamgarh in the Bundelkhand region or man-made, such as the lakes of Udaipur.

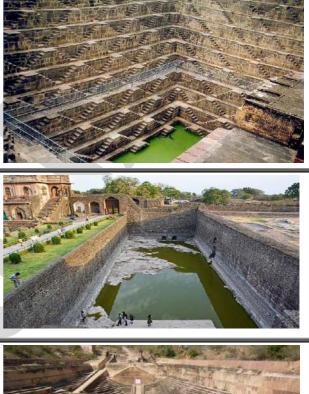
A reservoir with an area less than five bighas is called a talai, a medium sized lake is called a bandhi and bigger lakes are called sagar or samand.

Bawari: Bawaris are unique stepwells that were once a part of the ancient networks of water storage in the cities of Rajasthan. The little rain that the region received would be diverted to man-made tanks through canals built on the hilly outskirts of cities.

The water would then percolate into the ground, raising the water table and recharging a deep and intricate network of aquifers. To minimise water loss through evaporation, a series of layered steps were built around the reservoirs to narrow and deepen the wells.

Taanka: Taanka is a traditional rainwater harvesting technique indigenous to the Thar desert region of Rajasthan. A Taanka is a cylindrical paved underground pit into which rainwater from rooftops, courtyards or artificially prepared catchments flows.

Once completely filled, the water stored in a taanka can last throughout the dry season and is sufficient for a family of 5-6 members. An important element of water security in these arid regions, taankas can save families from the everyday drudgery of fetching water from distant sources.









Ahar Pynes: Ahar Pynes are traditional floodwater harvesting systems indigenous to South Bihar.

Ahars are reservoirs with embankments on three sides that are built at the end of diversion channels like pynes.

Pynes are artificial rivulets led off from rivers to collect water in the ahars for irrigation in the dry months. Paddy cultivation in this relatively low rainfall area depends mostly on ahar pynes.

Johads: Johads, one of the oldest systems used to conserve and recharge ground water, are small earthen check dams that capture and store rainwater. Constructed in an area with naturally high elevation on three sides, a storage pit is made by excavating the area, and excavated soil is used to create a wall on the fourth side.

Sometimes, several johads are interconnected through deep channels, with a single outlet opening into a river or stream nearby. This prevents structural damage to the water pits that are also called madakas in Karnataka and pemghara in Odisha.

Panam Keni: The Kuruma tribe (a native tribe of Wayanad) uses a special type of well, called the panam keni, to store water. Wooden cylinders are made by soaking the stems of toddy palms in water for a long time so that the core rots away until only the hard outer layer remains. These cylinders, four feet in diameter as well as depth, are then immersed in groundwater springs located in fields and forests. This is the secret behind how these wells have abundant water even in the hottest summer months.

Khadin: Khadins are ingenious constructions designed to harvest surface runoff water for agriculture. The main feature of a khadin, also called dhora, is a long earthen embankment that is built across the hill slopes of gravelly uplands.

Sluices and spillways allow the excess water to drain off and the water-saturated land is then used for crop production. First designed by the Paliwal Brahmins of Jaisalmer in the 15th century, this system is very similar to the irrigation methods of the people of ancient Ur (present Iraq).









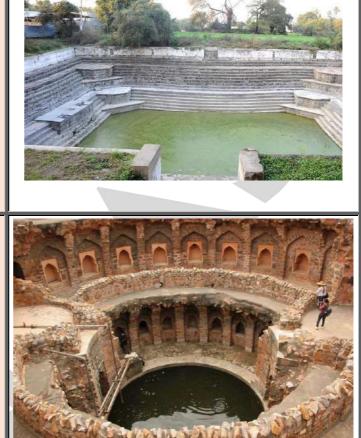


Kund: A kund is a saucer-shaped catchment area that gently slope towards the central circular underground well. Its main purpose is to harvest rainwater for drinking.

Kunds dot the sandier tracts of western Rajasthan and Gujarat. Traditionally, these well-pits were covered in disinfectant lime and ash, though many modern kunds have been constructed simply with cement. Raja Sur Singh is said to have built the earliest known kunds in the village of Vadi Ka Melan in the year 1607 AD.

Baoli: Built by the nobility for civic, strategic or philanthropic reasons, baolis were secular structures from which everyone could draw water. These beautiful stepwells typically have beautiful arches, carved motifs and sometimes, rooms on their sides.

The locations of baolis often suggest the way in which they were used. Baolis within villages were mainly used for utilitarian purposes and social gatherings. Baolis on trade routes were often frequented as resting places. Stepwells used exclusively for agriculture had drainage systems that channelled water into the fields.



GRADED RESPONSE ACTION PLAN (GRAP)

- Approved by the Supreme Court in 2016.
- **GRAP works only as an emergency measure**. As such, the plan does not include action by various state governments to be taken throughout the year to tackle industrial, vehicular and combustion emissions.
- The plan is incremental in nature therefore, when the air quality moves from 'Poor' to 'Very **Poor'**, the measures listed under both sections have to be followed.
- If air quality reaches the '**Severe+**' **stage**, the response under GRAP includes extreme measures such as shutting down schools and implementing the odd-even road-space rationing scheme.
- GRAP has been successful in doing two things that had not been done before creating a step-by-step plan for the entire Delhi-NCR region, and getting on board several agencies: all pollution control boards, industrial area authorities, municipal corporations, regional officials of the India Meteorological Department, and others.
- The plan requires action and coordination among 13 different agencies in Delhi, Uttar Pradesh, Haryana and Rajasthan (NCR areas). At the head of the table is the EPCA, mandated by the Supreme Court.
- GRAP was **notified in 2017** by the Centre and draws its authority from this notification. Before the imposition of any measures, EPCA holds a meeting with representatives from all NCR states, and a call is taken on which actions have to be made applicable in which town.
- A blanket ban on the DG sets for Delhi-NCR towns from October 15 onward was announced last year as well. However, issues were raised by the Haryana power secretary at the time about deficiencies in the electrical infrastructure in commercial and residential areas developed by builders in Gurgaon.



Has GRAP helped?

- The biggest success of GRAP has been in **fixing accountability and deadlines**. For each action to be taken under a particular air quality category, executing agencies are clearly marked. In a territory like Delhi, where a multiplicity of authorities has been a long-standing impediment to effective governance, this step made a crucial difference. Also, coordination among as many as 13 agencies from four states is simplified to a degree because of the clear demarcation of responsibilities.
- Three major policy decisions that can be credited to EPCA and GRAP are the closure of the thermal power plant at Badarpur, bringing BS-VI fuel to Delhi before the deadline set initially, and the ban on Pet coke as a fuel in Delhi-NCR.
- The initial mandate of the body was to ensure that Delhi's bus and auto fleet moves entirely to CNG a mammoth task that played a crucial role in cleaning Delhi's air in the late 2000s.
- $\circ\,$ The body continues to monitor pollution, and assists the Supreme Court in several pollution-related matters.

What measures have been taken in other states?

- One criticism of the EPCA as well as GRAP has been the focus on Delhi. While other states have managed to delay several measures, citing lack of resources, Delhi has always been the first to have stringent measures enforced.
- In 2014, when a study by the World Health Organisation found that Delhi was the most polluted city in the world, panic spread in the Centre and the state government. The release of a study on sources of air pollution the following year also gave experts, NGOs, and scientists a handle on why Delhi was so polluted.
- All of these things, state government officials say, have made Delhi the obvious pilot project. For GRAP as well as EPCA, the next challenge is to extend the measures to other states effectively.

Severe+ or Emergency (PM 2.5 over 300 µg/cubic metre or PM10 over 500 µg/cu. m. for 48+ hours)	 Stop entry of trucks into Delhi (except essential commodities) Stop construction work Introduce odd/even scheme for private vehicles and minimise exemptions Task Force to decide any additional steps including shutting of schools
Severe (PM 2.5 over 250 µg/cu. m. or PM10 over 430 µg/cu. m.)	 Close brick kilns, hot mix plants, stone crushers Maximise power generation from natural gas to reduce generation from coal Encourage public transport, with differential rates More frequent mechanised cleaning of road and sprinkling of water
Very Poor (PM2.5 121-250 μg/cu. m. or PM10 351-430 μg/cu. m.)	 Stop use of diesel generator sets Enhance parking fee by 3-4 times Increase bus and Metro services Apartment owners to discourage burning fires in winter by providing electric heaters during winter Advisories to people with respiratory and cardiac conditions to restrict outdoor movement
Moderate to poor (PM2.5 61-120 µg/cu. m. or PM10 101-350 µg/cu. m.)	 Heavy fines for garbage burning Close/enforce pollution control regulations in brick kilns and industries Mechanised sweeping on roads with heavy traffic and water

ACTIONS UNDER GRAP

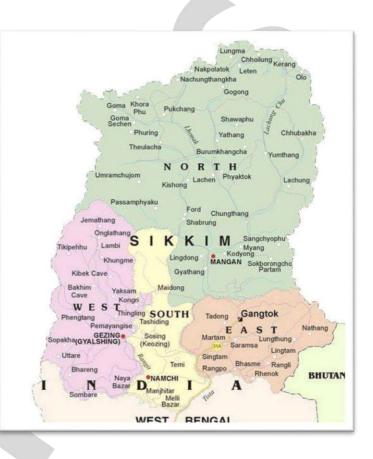


sprinkling

• Strictly enforce ban on firecrackers

4SIKKIM: FLORA CAPITAL

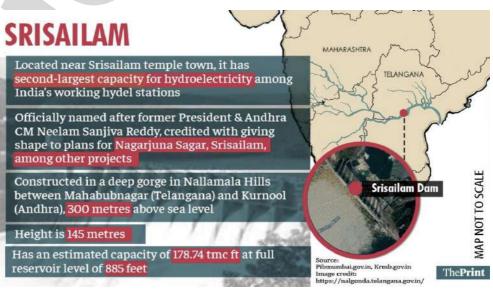
- Sikkim, the smallest State with less than 1% of India's landmass, is home to 27% of all flowering plants found in the country as per the recent publication by the Botanical Survey of India (BSI).
- Flora of Sikkim A Pictorial Guide, lists 4,912 naturally occurring flowering plants in the tiny Himalayan State.
- The total number of naturally occurring flowering plants in the country is about 18,004 species, and with 4,912 species, the diversity of flowering plants in Sikkim is very unique.
- Scientists and researchers behind the publication said that the State, which is a part of the Kanchenjunga biosphere landscape, has different altitudinal ecosystems, which provide opportunity for herbs and trees to grow and thrive. The State also borders China, Bhutan and Nepal, and the Darjeeling hills of West Bengal.
- Landscape: From subalpine vegetation to the temperate to the tropical, the State has different kinds of vegetation, and



that is the reason for such a diversity of flora. The elevation also varies between 300 to 8,598 metres above mean sea level, the apex being the top of Mt. Kanchenjunga (8,586 metres).

4SRISAILAM DAM

- The inflows into 0 Srisailam Reservoir have touched 5 lakh cusecs and the Dam Maintenance engineers are discharging 5,50,149 cusecs and the quantum of discharge from the dam is inching closer highest to the reached last year 597,440 cusecs on September 27, 2020.
- The Srisailam Dam is constructed across





the **Krishna River in Kurnool district**, Andhra Pradesh near Srisailam temple town and is the 2nd largest capacity working hydroelectric station in the country.

• The dam was constructed in a deep gorge in the **Nallamala Hills** in between Kurnool and Mahabubnagar districts.

4MEKEDATU PROJECT

Mekedatu, meaning goat's leap, is a deep gorge situated at the confluence of the rivers **Cauvery and its** tributary Arkavathi.

Mekedatu Project:

- The Rs. 9,000 crore project aims to store and supply water for drinking purposes for the Bengaluru city. Around 400 megawatts (MW) of power is also proposed to be generated through the project.
- $\circ~$ It was first approved by the Karnataka state government in 2017.
- It received approval from the erstwhile Ministry of Water Resources for the detailed project report and is awaiting approval from the Ministry of Environment, Forest and Climate Change (MoEFCC).
- The approval from MoEFCC is crucial because 63% of the forest area of the Cauvery Wildlife Sanctuary will be submerged.
- In 2018, Tamil Nadu approached the Supreme Court (SC) against the project even if Karnataka had held that it would not affect the flow of water to Tamil Nadu.
- In June 2020, during the Cauvery Water Management Authority's meeting, Tamil Nadu reiterated its opposition to the project.

Reasons for Opposition by Tamil Nadu:

- Tamil Nadu is opposed to any project being proposed in the upper riparian unless it was approved by the SC.
- Karnataka has no right to construct any reservoir on an inter-state river without the consent of the lower riparian state i.e. Tamil Nadu in this case.
- The project is against the final order of the Cauvery Water Disputes Tribunal (CWDT) in which the SC held that no state can claim exclusive ownership or assert rights to deprive other states of the waters of inter-state rivers.
- The CWDT and the SC have found that the existing storage facilities available in the Cauvery basin were adequate for storing and distributing water so Karnataka's proposal is ex-facie (on the face of it) untenable and should be rejected outright.
- It has also held that the reservoir is not just for drinking water alone, but to increase the extent of irrigation, which is in clear violation of the Cauvery Water Disputes Award.

LIGHTNING IN ARCTIC

- Meteorologists were stunned when three successive thunderstorms swept across the icy Arctic from Siberia to north of Alaska, unleashing lightning bolts in an unusual phenomenon that scientists say will become less rare with global warming.
- Typically, the air over the Arctic Ocean, especially when the water is covered with ice, lacks the convective heat needed to generate lightning storms. But as climate change warms the Arctic faster than the rest of the world, that's changing, scientists say.





Tripled in frequency

- Episodes of summer lightning within the Arctic Circle have tripled since 2010, a trend directly tied to climate change and increasing loss of sea ice in the far north, scientists reported in a study published in the journal Geophysical Research Letters. As sea ice vanishes, more water is able to evaporate, adding moisture to the warming atmosphere.
- These electrical storms threaten boreal forests fringing the Arctic, as they spark fires in remote regions already baking under the round-the-clock summer sun.
- \circ The paper also documented more frequent lightning over the Arctic's treeless tundra regions, as well as above the Arctic Ocean and pack ice. In August 2019, lightning even struck within 100 kilometers of the North Pole, the researchers found.
- In Alaska alone, thunderstorm activity is on track to increase threefold by the end of the century if current climate trends continue.

4MICROPLASTICS IN GANGES

 Delhi-based NGO Toxics Link released a study titled, "Quantitative analysis of Microplastics along River Ganga", which has found that the river – which flows through five states covering about 2,500 km before flowing into the Bay of Bengal – is heavily polluted with microplastics.

What are microplastics?

- Among the range of plastic debris that is found in water bodies, microplastics are the most notorious because of their small size, on average microplastics are **less than 5 mm in length or roughly equal to five pinheads**.
- Apart from humans, microplastics are harmful to marine species as well. More than 663 marine species are affected by marine debris and 11 percent of them are said to be related to microplastic ingestion, the study says.
- Because microplastics are so small, they are ingested by marine habitants including fish, corals, planktons and sea mammals and are then carried further into the food chain. In the case of humans, most of the microplastics can be found in food, water and food containers and their ingestion can cause health problems.

What does the recent study about the levels of pollution in river Ganga tell us?

- For the study, samples of Ganga's water were collected from Haridwar, Kanpur and Varanasi and microplastics were found in all of them. Apart from microplastics, there were other kinds of plastics as well such as single-use plastic and secondary plastic products. Of the samples, those taken at Varanasi had the highest concentration of plastic pollution.
- Further, the study notes that untreated sewage from densely populated cities across the river's course, along with industrial waste and religious offerings that are wrapped in non-degradable plastic add a significant amount of pollutants into the river. As the river flows, these waste and plastic materials break down further and are eventually carried into the Bay of Bengal and then into the ocean which is the "ultimate sink" of all plastics that are used by humans.
- Essentially all along microplastics are flowing into the river system. It does reflect or suggest a direct linkage between the poor state of both solid and liquid waste management; hence it is critically important to initiate steps to remediate it.

What are the efforts being made to clean the Ganga?

• Ganga has the largest river basin in terms of catchment area in the country and constitutes about 26 percent of India's landmass spread across 11 states, which supports 43 percent of the population.



- That the holy river Ganga is polluted is not a recent discovery, in fact, efforts to clean it have been ongoing for over 40 years. Most of them have focussed on creating sewage treatment capacities in the major urban centres along the river.
- In May 2015, the government approved the Namami Gange (which receives a 100 percent funding from the central government) programme to clean and protect the river. Programmes launched before this include the Ganga Action Plan (GAP) in 1985, the IIT Consortium (2011) for water diversion and effective treatment, and the National Mission for Clean Ganga in 2011.
- However, the Toxics Link study says that not only do none of these plans address pollution caused by microplastics but even otherwise these programs and schemes launched over the past decades on which millions of rupees have been spent so far, have yielded "little success".



SCIENCE AND TECHNOLOGY

(Inventions, Innovations, Discoveries and Explorations)

INDIA and SPACE SCIENCE

LAUNCH VEHICLES Height :22.7m Height :23.5m Height :44m :49m :43.43 m Height Height Lift-off weight : 39 t Lift-off weight : 17 t Lift-off weight : 320 t Lift-off weight : 414 t Lift-off weight : 640 t Propulsion : All Solid Propulsion : All Solid Propulsion : Solid & Liquid Propulsion : Solid, Liquid & Cryogenic Propulsion : Solid, Liquid & Cryogenic Payload mass : 40 kg Pavload mass : 150 kg Payload mass : 1860 kg Payload mass : 2200 kg Payload mass : 4000 kg : Low Earth Orbit : Low Earth Orbit : 475 km Orbit Orbit : Geosynchronous Orbit : Geosynchronous Orbit Orbit Sun Synchronous Transfer Orbit Transfer Orbit Polar Orbit (1300 kg in Geosynchronous Transfer Orbit)

- o Launchers or Launch Vehicles are used to carry spacecraft to space.
- India has two operational launchers: Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch Vehicle (GSLV).
- GSLV with indigenous **Cryogenic Upper Stage** has enabled the launching up to 2 tonne class of communication satellites. The next variant of **GSLV is GSLV Mk III**, with **indigenous high thrust cryogenic engine and stage**, having the capability of launching 4 tonne class of communication satellites.
- In order to achieve high accuracy in placing satellites into their orbits, a combination of accuracy, efficiency, power and immaculate planning are required.
- ISRO's Launch Vehicle Programme spans numerous centres.
- Vikram Sarabhai Space Centre, located in Thiruvananthapuram, is responsible for the design and development of launch vehicles.
- **Liquid Propulsion Systems Centre and ISRO Propulsion Complex**, located at Valiamala and Mahendragiri respectively, develop the liquid and cryogenic stages for these launch vehicles.
- **Satish Dhawan Space Centre, SHAR**, is the space port of India and is responsible for integration of launchers. It houses two operational launch pads from where all GSLV and PSLV flights take place.



4SATELLITE LAUNCH VEHICLE-3 (SLV-3)

- SLV-3 was **India's first experimental satellite launch vehicle**, which was an **all solid, four stage vehicle** weighing 17 tonnes with a height of 22m and capable of placing 40 kg class payloads in Low Earth Orbit (LEO).
- SLV-3 was successfully launched on **July 18, 1980** from Sriharikota Range (SHAR), when **Rohini** satellite, **RS-1**, was placed in orbit, thereby making India the sixth member of an exclusive club of space-faring nations.
- SLV-3 employed an **open loop guidance** (with stored pitch programme) to steer the vehicle in flight along a pre-determined trajectory. The first experimental flight of SLV-3, in August 1979, was only partially successful. Apart from the July 1980 launch, there were two more launches held in May 1981 and April 1983, orbiting Rohini satellites carrying remote sensing sensors.
- The successful culmination of the SLV-3 project showed the way to advanced launch vehicle projects such as the Augmented Satellite Launch Vehicle (ASLV), Polar Satellite Launch Vehicle (PSLV) and the Geosynchronous satellite Launch Vehicle (GSLV).

4AUGMENTED SATELLITE LAUNCH VEHICLE (ASLV)

- With a lift off weight of 40 tonnes, the 24 m tall ASLV was configured as a **five stage**, **all-solid propellant vehicle**, with a mission of orbiting **150 kg class satellites into 400 km circular orbits**.
- The Augmented Satellite Launch Vehicle (ASLV) Programme was designed to augment the payload capacity to 150 kg, thrice that of SLV-3, for **Low Earth Orbits (LEO)**. While building upon the experience gained from the SLV-3 missions, ASLV proved to be a low cost intermediate vehicle to demonstrate and validate critical technologies, that would be needed for the future launch vehicles like strap-on technology, inertial navigation, bulbous heat shield, vertical integration and closed loop guidance.
- Under the ASLV programme four developmental flights were conducted. The first developmental flight took place on March 24, 1987 and the second on July 13, 1988. The third developmental flight, ASLV-D3 was successfully launched on May 20, 1992, when **SROSS-C (106 kg)** was put into an orbit of 255 x 430 km.
- ASLV-D4, launched on May 4, 1994, orbited SROSS-C2 weighing 106 kg. It had two payloads, Gamma Ray Burst (GRB) Experiment and Retarding Potentio Analyser (RPA) and functioned for seven years.

4 POLAR SATELLITE LAUNCH VEHICLE (PSLV)

- Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India.
- It is the **first Indian launch vehicle to be equipped with liquid stages**. After its first successful launch in October 1994, PSLV emerged as the reliable and versatile workhorse launch vehicle of India with 39 consecutively successful missions by June 2017. During 1994-2017 period, the vehicle has launched 48 Indian satellites and 209 satellites for customers from abroad.
- Besides, the vehicle successfully launched two spacecraft **Chandrayaan-1 in 2008** and **Mars Orbiter Spacecraft in 2013** – that later traveled to Moon and Mars respectively.
- PSLV earned its title **'the Workhorse of ISRO'** through consistently delivering various satellites to Low Earth Orbits, particularly the IRS series of satellites. It can take up to 1,750 kg of payload to **Sun-Synchronous Polar Orbits** of 600 km altitude.
- Due to its unmatched reliability, PSLV has also been used to launch various satellites into **Geosynchronous and Geostationary orbits**, like satellites from the IRNSS constellation.
- **Fourth Stage**: PS4- The PS4 is the uppermost stage of PSLV, comprising of two Earth storable liquid engines.
- **Third Stage**: PS₃- The third stage of PSLV is a solid rocket motor that provides the upper stages high thrust after the atmospheric phase of the launch.



- **Second Stage**: PS2- PSLV uses an Earth storable liquid rocket engine for its second stage, known as the Vikas engine, developed by Liquid Propulsion Systems Centre.
- First Stage: PS1-PSLV uses the S139 solid rocket motor that is augmented by 6 solid strap-on boosters.
- Strap-on Motors: PSLV uses 6 solid rocket strap-on motors to augment the thrust provided by the first stage in its PSLV-G and PSLV-XL variants. However, strap-ons are not used in the core alone version (PSLV-CA).

GEOSYNCHRONOUS SATELLITE LAUNCH VEHICLE (GSLV)

- Geosynchronous Satellite Launch Vehicle Mark II (GSLV Mk II) is the **largest launch vehicle developed by India**, which is currently in operation.
- This **fourth generation launch vehicle** is a **three stage vehicle with four liquid strap-ons**. The indigenously developed cryogenic Upper Stage (CUS), which is flight proven, forms the third stage of GSLV Mk II.
- **Payload to GTO**: 2,500 kg- GSLV's primary payloads are **INSAT class of communication satellites** that operate from **Geostationary orbits** and hence are placed in **Geosynchronous Transfer Orbits** by GSLV.
- **Payload to LEO**: 5,000 kg-Further, GSLV's capability of placing up to 5 tonnes in Low Earth Orbits broadens the scope of payloads from heavy satellites to multiple smaller satellites.
- **Third Stage**: CUS- Developed under the Cryogenic Upper Stage Project (CUSP), the CE-7.5 is India's first cryogenic engine, developed by the Liquid Propulsion Systems Centre. CE-7.5 has a staged combustion operating cycle.
- **Second Stage**: GS2-One Vikas engine is used in the second stage of GSLV. The stage was derived from the PS2 of PSLV where the Vikas engine has proved its reliability.
- **First Stage**: GS1-The first stage of GSLV was also derived from the PSLV's PS1. The 138 tonne solid rocket motor is augmented by 4 liquid strap-ons.
- **Strap-on Motors**: The four liquid engine strap-ons used in GSLV are heavier derivatives of PSLV's PS2, and use one Vikas engine each.

4GSLV Mk III

- GSLV MkIII, chosen to launch **Chandrayaan-2 spacecraft**, is a **three-stage heavy lift launch** vehicle developed by ISRO. The vehicle has **two solid strap-ons**, a core liquid booster and a cryogenic **upper stage**.
- GSLV Mk III is designed to carry **4 ton class of satellites into Geosynchronous Transfer Orbit (GTO)** or about 10 tons to Low Earth Orbit (LEO), which is about twice the capability of the GSLV Mk II.
- The two strap-on motors of GSLV Mk III are located on either side of its core liquid booster. Designated as 'S200', each carries 205 tons of composite solid propellant and their ignition results in vehicle lift-off. S200s function for 140 seconds.
- During strap-ons functioning phase, the two clustered Vikas liquid Engines of L110 liquid core booster will ignite 114 sec after lift -off to further augment the thrust of the vehicle. These two engines continue to function after the separation of the strap-ons at about 140 seconds after lift -off.
- The first experimental flight of LVM3, the LVM3-X/CARE mission lifted off from Sriharikota on December 18, 2014 and successfully tested the atmospheric phase of flight. Crew module Atmospheric Reentry Experiment was also carried out in this flight. The module reentered, deployed its parachutes as planned and splashed down in the Bay of Bengal.
- The first developmental flight of GSLV Mk III, the GSLV-Mk III-D1 successfully placed GSAT-19 satellite to a Geosynchronous Transfer Orbit (GTO) on June 05, 2017 from SDSC SHAR, Sriharikota.



- GSLV MkIII-D2, the second developmental flight of GSLV MkIII successfully launched GSAT-29, a high throughput communication satellite on November 14, 2018 from Satish Dhawan Space Centre SHAR, Sriharikota
- GSLV MkIII-M1, successfully injected Chandrayaan-2, India's second Lunar Mission, in to Earth Parking Orbit on July 22, 2019 from Satish Dhawan Space Centre SHAR, Sriharikota.
- **Payload to GTO**: 4,000 kg- GSLV Mk III will be capable of placing the 4 tonne class satellites of the GSAT series into Geosynchronous Transfer Orbits.
- **Payload to LEO:** 8,000 kg- The powerful cryogenic stage of GSLV Mk III enables it to place heavy payloads into Low Earth Orbits of 600 km altitude.
- **Cryogenic Upper Stage** : C25- The C25 is powered by CE-20, India's largest cryogenic engine, designed and developed by the Liquid Propulsion Systems Centre.
- **Solid Rocket Boosters** : S200- GSLV Mk III uses two S200 solid rocket boosters to provide the huge amount of thrust required for lift off. The S200 was developed at Vikram Sarabhai Space Centre.
- **Core Stage :** L110 Liquid Stage- The L110 liquid stage is powered by two Vikas engines designed and developed at the Liquid Propulsion Systems Centre.

SOUNDING ROCKETS

- Sounding rockets are **one or two stage solid propellant rockets** used for probing the **upper atmospheric regions** and for space research.
- They also serve as easily affordable platforms to **test or prove prototypes of new components or subsystems** intended for use in launch vehicles and satellites.
- With the establishment of the **Thumba Equatorial Rocket Launching Station (TERLS) in 1963 at Thumb**a, a location close to the magnetic equator, there was a quantum jump in the scope for aeronomy and atmospheric sciences in India.
- The **launch of the first sounding rocket from Thumba** near Thiruvananthapuram, Kerala on 21 November 1963, marked the beginning of the Indian Space Programme . Sounding rockets made it possible to probe the atmosphere in situ using rocket-borne instrumentation.
- The first rockets were two-stage rockets imported from Russia (M-100) and France (Centaure). While the M-100 could carry a payload of 70 kg to an altitude of 85 km, the Centaure was capable of reaching 150 km with a payload of approximately 30 kg.
- ISRO started launching indigenously made sounding rockets from 1965 and experience gained was of immense value in the mastering of solid propellant technology. In 1975, all sounding rocket activities were consolidated under the Rohini Sounding Rocket (RSR) Programme. RH-75, with a diameter of 75mm was the first truly Indian sounding rocket, which was followed by RH-100 and RH-125 rockets. The sounding rocket programme was the bedrock on which the edifice of launch vehicle technology in ISRO could be built. It is possible to conduct coordinated campaigns by simultaneously launching sounding rockets from different locations. It is also possible to launch several sounding rockets in a single day.

REUSABLE LAUNCH VEHICLE – TECHNOLOGY DEMONSTRATOR (RLV-TD)

- RLV-TD is one of the most technologically challenging endeavours of ISRO towards developing essential technologies for a fully reusable launch vehicle to enable low cost access to space.
- The **configuration of RLV-TD is similar to that of an aircraft and combines the complexity of both launch vehicles and aircraft**. The winged RLV-TD has been configured to act as a flying test bed to evaluate various technologies, namely, hypersonic flight, autonomous landing and powered cruise flight. In future, this vehicle will be scaled up to become the first stage of India's reusable two stage orbital launch vehicle.
- **RLV-TD consists of a fuselage (body), a nose cap, double delta wings and twin vertical tails.** It also features symmetrically placed active control surfaces called **Elevons and Rudder**.

- This technology demonstrator was boosted to Mach no: 5 by a conventional solid booster (HS9) designed for low burn rate.
- The selection of materials like special alloys, composites and insulation materials for developing an RLV-TD and the crafting of its parts is very complex and demands highly skilled manpower. Many high technology machinery and test equipment were utilised for building this vehicle.

Objectives of RLV-TD:

- Hypersonic aero thermodynamic characterisation of wing body
- Evaluation of autonomous Navigation, Guidance and Control (NGC) schemes
- Integrated flight management
- Thermal Protection System Evaluation

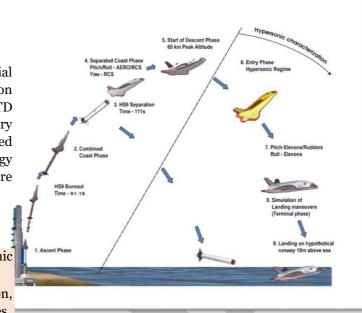
RLV-TD was successfully flight tested in 2016 from SDSC SHAR Sriharikota validating the critical technologies such as autonomous navigation, guidance & control, reusable thermal protection system and re-entry mission management.

SCRAMJET ENGINE - TD

- The first experimental mission of ISRO's Scramjet Engine towards the realisation of an **Air Breathing Propulsion System** was successfully conducted in 2016 from Satish Dhawan Space Centre SHAR, Sriharikota.
- After a flight of about 300 seconds, the vehicle touched down in the Bay of Bengal, approximately 320 km from Sriharikota. The vehicle was successfully tracked during its flight from the ground stations at Sriharikota. With this flight, critical technologies such as ignition of air breathing engines at supersonic speed, holding the flame at supersonic speed, air intake mechanism and fuel injection systems have been successfully demonstrated.
- The Scramjet engine designed by ISRO uses Hydrogen as fuel and the Oxygen from the atmospheric air as the oxidiser. This test was the maiden short duration experimental test of ISRO's Scramjet engine with a hypersonic flight at Mach 6.
- ISRO's Advanced Technology Vehicle (ATV), which is an advanced sounding rocket, was the solid rocket booster used for the test of Scramjet engines at supersonic conditions. ATV carrying Scramjet engines weighed 3277 kg at lift-off.

EXOPLANET

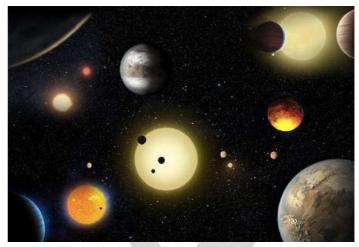
- An exoplanet is any planet beyond our solar system.
- Most orbit other stars, but free-floating exoplanets, called **rogue planets**, orbit the galactic center and are untethered to any star.
- Most of the exoplanets discovered so far are in a relatively small region of our galaxy, the Milky Way. We know from NASA's Kepler Space Telescope that there are more planets than stars in the galaxy.



Shield IAS.



- By measuring exoplanets' sizes (diameters) and masses (weights), we can see compositions ranging from very rocky (like Earth and Venus) to very gas-rich (like Jupiter and Saturn).
- Exoplanets are made up of elements similar to those of the planets in our solar system, but their mixes of those elements may differ. Some planets may be dominated by water or ice, while others are dominated by iron or carbon. We've identified lava worlds covered in molten seas, puffy planets the density of Styrofoam and dense cores of planets still orbiting their stars.



- The **first exoplanets were discovered in the 1990s** and since then we've identified thousands using a variety of detection methods. It's pretty rare for astronomers to see an exoplanet through their telescopes the way you might see Saturn through a telescope from Earth. That's called **direct imaging**, and only a handful of exoplanets have been found this way (and these tend to be young gas giant planets orbiting very far from their stars).
- Now we live in a universe of exoplanets. The count of confirmed planets is in the thousands and rising. That's from only a small sampling of the galaxy as a whole. The count could rise to the tens of thousands within a decade, as we increase the number, and observing power, of robotic telescopes lofted into space.
- Most exoplanets are found through indirect methods: measuring the dimming of a star that happens to have a planet pass in front of it, called the transit method, or monitoring the spectrum of a star for the tell-tale signs of a planet pulling on its star and causing its light to subtly Doppler shift. Space telescopes have found thousands of planets by observing "transits," the slight dimming of light from a star when its tiny planet passes between it and our telescopes. Other detection methods include gravitational lensing, the so-called "wobble method."
- But when multiple methods are used together, we can learn the vital statistics of whole planetary systems without ever directly imaging the planets themselves. The best example so far is the **TRAPPIST-1 system** about 40 light-years away, where seven roughly Earth-sized planets orbit a small, red star.
- The TRAPPIST-1 planets have been examined with ground and space telescopes. The space-based studies revealed not only their diameters, but the subtle gravitational influence these seven closely packed planets have upon each other; from this, scientists determined each planet's mass.
- So now we know their masses and their diameters. We also know how much of the energy radiated by their star strikes these planets' surfaces, allowing scientists to estimate their temperatures.

Planet Types

• Exoplanets come in a wide variety of sizes, from gas giants larger than Jupiter to small, rocky planets about as big around as Earth or Mars. They can be hot enough to boil metal or locked in deep freeze. They can orbit their stars so tightly that a "year" lasts only a few days; they can orbit two suns at once. Some exoplanets are sunless rogues, wandering through the galaxy in permanent darkness.

GENOME SEQUENCING

- Genome sequencing is figuring out the **order of DNA nucleotides**, **or bases**, **in a genome**—the order of As, Cs, Gs, and Ts that make up an organism's DNA. The human genome is made up of over 3 billion of these genetic letters.
- Today, DNA sequencing on a large scale—the scale necessary for ambitious projects such as sequencing an entire genome—is mostly done by high-tech machines. Much as your eye scans a sequence of letters to read a sentence, these machines "read" a sequence of DNA bases.



 A DNA sequence that has been translated from life's chemical alphabet into our alphabet of written letters might look like this:



• That is, in this particular piece of DNA, an adenine (A) is followed by a guanine (G), which is followed by a thymine (T), which in turn is followed by a cytosine (C), another cytosine (C), and so on.

What is genome sequencing?

- Genome sequencing is often compared to **"decoding,"** but a sequence is still very much in code. In a sense, a genome sequence is simply a **very long string of letters in a mysterious language**.
- When you read a sentence, the meaning is not just in the sequence of the letters. It is also in the words those letters make and in the grammar of the language. Similarly, the human genome is more than just its sequence.
- Imagine the genome as a book written without capitalization or punctuation, without breaks between words, sentences, or paragraphs, and with strings of nonsense letters scattered between and even within sentences.
- So sequencing the genome doesn't immediately lay open the genetic secrets of an entire species. Even with
 a rough draft of the human genome sequence in hand, much work remains to be done. Scientists still have
 to translate those strings of letters into an understanding of how the genome works: what the various genes
 that make up the genome do, how different genes are related, and how the various parts of the genome are
 coordinated. That is, they have to figure out what those letters of the genome sequence mean.

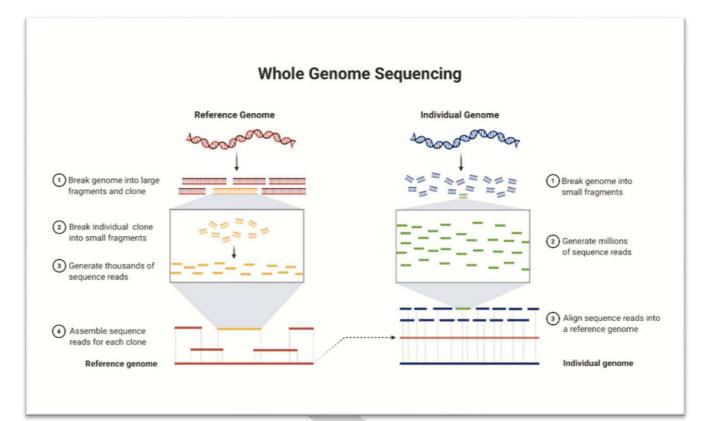
Why is genome sequencing so important?

- \circ $\,$ Sequencing the genome is an important step towards understanding it.
- At the very least, the genome sequence will represent a valuable shortcut, helping scientists find genes much more easily and quickly. A genome sequence does contain some clues about where genes are, even though scientists are just learning to interpret these clues.
- Scientists also hope that being able to study the entire genome sequence will help them understand how the genome as a whole works—how genes work together to direct the growth, development and maintenance of an entire organism.
- Finally, genes account for less than 25 percent of the DNA in the genome, and so knowing the entire genome sequence will help scientists study the parts of the genome outside the genes. This includes the regulatory regions that control how genes are turned on an off, as well as long stretches of "nonsense" or "junk" DNA—so called because we don't yet know what, if anything, it does.

WHOLE GENOME SEQUENCING

- Whole-genome sequencing (WGS) is a comprehensive method for analyzing entire genomes.
- Genomic information has been instrumental in **identifying inherited disorders**, **characterizing the mutations** that drive cancer progression, and **tracking disease outbreaks**. Rapidly dropping sequencing costs and the ability to produce large volumes of data with today's sequencers make wholegenome sequencing a powerful tool for genomics research.
- While this method is commonly associated with sequencing human genomes, the scalable, **flexible nature of next-generation sequencing (NGS) technology** makes it equally useful for sequencing any species, such as agriculturally important livestock, plants, or disease-related microbes.





Advantages

- $\circ~$ Provides a high-resolution, base-by-base view of the genome.
- Captures both large and small variants that might be missed with targeted approaches.
- $\circ\,$ Identifies potential causative variants for further follow-up studies of gene expression and regulation mechanisms.
- Delivers large volumes of data in a short amount of time to support assembly of novel genomes.



INDIAN POLITY

(Constitution; Polity and Governance)

4 RULE OF LAW

According to United Nations

- In 1945, the United Nations was created on **three pillars**: *international peace and security, human rights* and **development**. Almost seventy-five years later, the complex political, social and economic transformation of modern society has brought us challenges and opportunities which require a collective response which must be guided by the rule of law, as it is the foundation of friendly and equitable relations between states and the base of fairs societies.
- For the United Nations (UN) system, the **rule of law is a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws** that are publicly promulgated, equally enforced and independently adjudicated, and which are consistent with international human rights norms and standards.
- It **requires measures to ensure adherence to the principles of supremacy of the law**, equality before the law, accountability to the law, fairness in the application of the law, separation of powers, participation in decision-making, legal certainty, avoidance of arbitrariness, and procedural and legal transparency.
- The **rule of law is fundamental to international peace and security and political stability**; to **achieve economic and social progress and development**; and to **protect people's rights and fundamental freedoms**. It is foundational to people's access to public services, curbing corruption, restraining the abuse of power, and to establishing the social contract between people and the state.
- **Rule of law and development are strongly interlinked**, and strengthened rule of law-based society should be considered as an outcome of the 2030 Agenda and Sustainable Development Goals (SDGs).
- The **rule of law is an important component of sustaining peace**, as advanced by the General Assembly and Security Council in the twin resolutions on the review of the peacebuilding architecture. Sustaining peace requires an integrated and comprehensive approach across the UN system, based on coherence between political, security, development, human rights, gender equality and rule of law activities in support of Member State-led efforts.
- Strengthening the **rule of law involves respect for the norms of international law**, including on the use of force, and recognition of the primary responsibility of States to protect their populations from genocide, crimes against humanity, ethnic cleansing and war crimes. The rule of law is a core element of the humanitarian and human rights agendas; is crucial to understanding and addressing the reasons for displacement and statelessness; and is the foundation of the humanitarian protection regime.
- **Rule of law issues includes emerging and critical issues** such as the proliferation of hate speech and incitement to violence; preventing radicalization/violent extremism; climate change and the environment impacting on the security and livelihoods of people; and the complexities of artificial intelligence and cybercrime.

The Four Universal Principles

The rule of law is a durable system of **laws**, **institutions**, **norms**, and **community commitment** that delivers:

- 1. Accountability: The government as well as private actors are accountable under the law.
- 2. **Just Law**: The law is clear, publicized, and stable and is applied evenly. It ensures human rights as well as contract and property rights.
- 3. **Open Government**: The processes by which the law is adopted, administered, adjudicated, and enforced are accessible, fair, and efficient.



4. Accessible and Impartial Justice: Justice is delivered timely by competent, ethical, and independent representatives and neutrals who are accessible, have adequate resources, and reflect the makeup of the communities they serve.

These four universal principles constitute a working definition of the rule of law. They were developed in accordance with internationally accepted standards and norms, and were tested and refined in consultation with a wide variety of experts worldwide.

The four universal principles are further developed in the below factors of the annual **World Justice Project (WJP) Rule of Law Index**, the world's leading source for original, independent data on the rule of law.

Factors of the Rule of Law

The scores and rankings of the WJP Rule of Law Index are organized around eight primary factors:

- 1. Constraints on Government Powers,
- 2. Absence of Corruption,
- 3. Open Government,
- 4. Fundamental Rights,
- 5. Order and Security,
- 6. Regulatory Enforcement,
- 7. Civil Justice, and
- 8. Criminal Justice.
- No matter who we are or where we live, the rule of law affects us all. It is the foundation for communities of justice, opportunity, and peace—underpinning development, accountable government, and respect for fundamental rights.
- Research shows that **rule of law correlates to higher economic growth**, **greater peace**, **less inequality**, **improved health outcomes**, **and more education**.

4 WJP RULE OF LAW INDEX

The World Justice Project Rule of Law Index is the world's leading source for original, independent data on the rule of law covering 128 countries and jurisdictions.

Country Highlights

Top Performers						Bottom Performers					
Country/Jurisdiction	Overall Score	Score Change	% Score Change	Global Rank	Global Rank Change	Country/Jurisdiction	Overall Score	Score Change	% Score Change	Global Rank	Global Rank Change
Denmark	0.90	0.00	0.0%	1	0	📜 Zimbabwe	0.39	-0.01	-1.5%	119	1.
Harway	0.89	0.00	0.1%	2	0	C Pakistan	0.39	0.00	-0.7%	120	1 -
+ Finland	0.87	0.00	-0.1%	3	0	🔤 Bolivia	0.38	0.00	0.3%	121	0
Sweden	0.86	0.00	0.2%	4	0	Afghanistan	0.36	0.02	4.3%	122	3 🔺
Netherlands	0.84	0.00	-0.5%	5	0	Mauritania	0.36	0.01	4.0%	123	1.
Germany	0.84	0.00	0.1%	6	0	Cameroon	0.36	-0.02	-4.4%	124	2 -
New Zealand	0.83	0.00	0.3%	7	1.	Egypt	0.36	0.00	0.1%	125	2 -
Austria	0.82	-0.01	-0.6%	8	1.	🜌 Congo, Dem. Rep.	0.34	0.01	2.6%	126	0
Canada	0.81	0.00	-0.2%	9	0	Cambodia	0.33	0.00	0.7%	127	0
Estonia	0.81	0.00	0.0%	10	0	Venezuela, RB	0.27	-0.01	-2.6%	128	0

- **Denmark, Norway**, and **Finland** topped the WJP Rule of Law Index rankings in 2020. Venezuela, Cambodia, and DR Congo had the lowest overall rule of law scores—the same as in 2019.
- Countries in the top ten of the Index in overall rule of law score remain unchanged since our last report in 2019. This year, for the first time, the United States fell out of the top 20 countries, replaced by Spain. France fell from #17 to #20, with Singapore trading places with United Kingdom, moving from #13 to #12.



- Countries with the strongest improvement in rule of law were Ethiopia (5.6% increase in score, driven primarily by gains in Constraints on Government Powers and Fundamental Rights) and Malaysia (5.1%, driven primarily by gains in Constraints on Government Powers, Fundamental Rights, and Regulatory Enforcement).
- The most downward movement in the rule of law was seen in Cameroon (-4.4%, driven primarily by falling scores in Order and Security and Fundamental Rights) and Iran (-4.2%, driven primarily by falling scores in Criminal Justice).
- Over the last five years, countries experiencing the largest average annual percentage drop in the rule of law were Egypt (-4.6 %), Venezuela (-3.9%), Cambodia (-3.0%), Philippines (-2.5%), Cameroon (-2.4%), Hungary (-2.1%), and Bosnia and Herzegovina (-2.1%).
- The single biggest decline by factor over the past five years was Egypt's and Poland's score for Constraints on Government Powers, with an average annual decline of -8.5% and -6.8%, respectively.
- Countries leading their regions in overall rule of law scores were: Nepal (South Asia), Georgia (Eastern Europe and Central Asia); Namibia (Sub-Saharan Africa); Uruguay (Latin America and the Caribbean); United Arab Emirates (Middle East and North Africa); New Zealand (East Asia and Pacific), and Denmark (Western Europe and North America, defined as EU + EFTA + North America).
- $\circ~$ India is ranked 69th.

Global Trends

- More countries declined than improved in overall rule of law performance for a third year in a row, continuing a **negative slide toward weakening and stagnating rule of law around the world.** The majority of countries showing deteriorating rule of law in the 2020 Index also declined in the previous year, demonstrating a persistent downward trend. This was particularly pronounced in the Index factor measuring **Constraints on Government Powers.**
- The declines were widespread and seen in all corners of the world. In every region, a majority of countries slipped backward or remained unchanged in their overall rule of law performance since the 2019 WJP Rule of Law Index.
- At a global level, countries experienced the biggest declines over the past year in the areas of Fundamental Rights (54 declined, 29 improved), Constraints on Government Powers (52 declined, 28 improved), and Absence of Corruption (51 declined, 26 improved). This is not a new pattern; WJP data shows the same three factors were the largest decliners over a five-year time horizon as well. Fundamental Rights showed the most backsliding with 67 countries dropping in score since 2015.
- Civil Justice showed the most positive movement over the previous year, with 47 countries improving versus 41 declining. Since 2015, Regulatory Enforcement has improved the most, with 65 countries improving versus 29 declining.

4 RULE OF LAW vs. RULE BY LAW

Opinion of CJI

- **CJI N V Ramana stated:** The former is what we fought for (*Rule of Law*), the latter is an instrument of colonial rule (*Rule by Law*). In the face of a pandemic, it's important to reflect on how the tension between the two defines the quality of justice.
- When talking about Rule of Law, it is necessary to first understand what the law is. Law, in its most general sense, is a tool of social control that is backed by the sovereign. However, is this definition complete in itself? I would think not. Such a definition of law makes it a double-edged sword. It can be used not only to render justice, it can also be used to justify oppression.
- What is clear is that both these thoughts highlight certain facets of what is meant by the term "law". I think that any law backed by a sovereign must be tempered by certain ideals or tenets of justice. Only a state that is governed by such law, can be said to have the Rule of Law.
- The British colonial power used the law as a tool of political repression, enforcing it unequally on the parties, with a different set of rules for the British and for the Indians. It was an enterprise famous for



"Rule by Law", rather than "Rule of Law", as it aimed at controlling the Indian subjects. Our struggle for independence thus marked our journey towards the establishment of a state defined by the Rule of Law... A framework was needed to ensure this. The framework that forms the binding link between law and justice in this country. That is what "We the people" gave to ourselves in the form of the Constitution.

Many conceptions of Rule of Law have emerged... It would be relevant to emphasise four principles.

- The **first principle is that "laws must be clear and accessible**,"...(that) the people at least ought to know what the laws are. There cannot, therefore, be secretive laws, as laws are for society. Another implication of this principle is that they should be worded in simple, unambiguous language.
- The **second principle relates to the idea of "equality before the law"...** An important aspect of equality before law is having equal access to justice. This guarantee of equal justice will be rendered meaningless if the vulnerable sections are unable to enjoy their rights because of their poverty or illiteracy or any other kind of weakness.
- Another aspect is the issue of "gender equality". The legal empowerment of women not only enables them to advocate for their rights and needs in society, but it also increases their visibility in the legal reform process and allows their participation in it. Bias and prejudice necessarily lead to injustice, particularly when it relates to minorities. Consequently, the **application of the principles of Rule of Law in respect of vulnerable sections has to necessarily be more inclusive of their social conditions** that hinder their progress.
- This leads me to the **third principle**, the "right to participate in the creation and refinement of laws". The very essence of a democracy is that its citizenry has a role to play, directly or indirectly, in the laws that govern them. In India, it is done through elections where the people get to exercise their universal adult franchise to elect the people who form part of Parliament which enacts laws.
- In spite of large-scale inequalities, illiteracy, backwardness, poverty and alleged ignorance, the people of independent India have proved themselves to be intelligent and up to the task. The masses have performed their duties reasonably well. Now, it is the turn of those who are manning the key organs of the state to ponder if they are living up to the constitutional mandate.
- Note: It has always been well-recognised that the **mere right to change the ruler**, **once every few years**, **by itself need not be a guarantee against tyranny**. The idea that people are the ultimate sovereign is also to be found in notions of human dignity and autonomy. A public discourse that is both reasoned and reasonable is to be seen as an inherent aspect of human dignity and hence essential to a properly functioning democracy.
- The idea of the judiciary, as a "guardian" of the Constitution, brings me to the fourth and final principle: The presence of a "strong independent judiciary".
- The judiciary is the primary organ which is tasked with ensuring that the laws that are enacted are in line with the Constitution. This is one of the main functions of the judiciary, that of **judicial review of laws**. The Supreme Court has held this function to be a part of the basic structure of the Constitution, which means that Parliament cannot curtail the same.
- But the importance of the judiciary shouldn't blind us to the fact that the responsibility of safeguarding constitutionalism lies not just with the courts. All the three organs of the state, i.e., the executive, legislature and the judiciary, are equal repositories of constitutional trust. The role of the judiciary and scope of judicial action is limited, as it only pertains to facts placed before it.
- This limitation calls for other organs to assume responsibilities of upholding constitutional values and ensuring justice in the first place, with the judiciary acting as an important check.
- For the judiciary to apply checks on governmental power and action, it has to have complete freedom. The judiciary cannot be controlled, directly or indirectly, by the legislature or the executive, or else the Rule of Law would become illusory.



4 SECTION 66A of IT ACT

- The continued use of Section 66A came back in news when the People's Union for Civil Liberties (PUCL) filed a petition in the Supreme Court citing a working paper by the Internet Freedom Foundation. The paper showed that the dead law was still being invoked by police across India.
- \circ The petition said there was a huge communication gap in conveying the Supreme Court order to the ground level police officers. Many of them did not even know that Section 66A had been struck down by the Supreme Court, the petition said.
- The recent observation of the Supreme Court came on the same petition that the PUCL filed. The Centre subsequently sent a reminder to all states and Union Territories asking them to bury the law that died six years ago.

About Section 66A

- Section 66A made **sending of offensive messages using a computer or any other communication devices a crime**. The police had to determine whether an information sent in the message qualified as offensive or not.
- To be booked under Section 66A, the information in the message had to be:
- Grossly offensive
- False and meant for the purpose of causing annoyance, inconvenience, danger, obstruction, insult, injury, criminal intimidation, enmity, hatred or ill will
- Meant to deceive or mislead the recipient about the origin of such messages
- The crime was punishable with three-year jail and fine.
- The IT Act was enacted in 2000 when Internet was still relatively new in India. Social media websites were not in vogue. Smartphone mobile apps were not the order of the day.
- As they gained popularity in India, misuse and abuse of the platforms came up as a challenge to the government. As a result, Section 66A was inserted into the IT Act in 2009.

Why was it struck down?

- One of the PILs was filed by **Shreya Singhal**, then a 21-year-old law student in Delhi. She challenged Section 66A arguing that it curbed freedom of speech and expression and violated fundamental rights guaranteed under Articles 14, 19 and 21 of the Constitution.
- Her petition contended that the law was "vague", "ambiguous" and subject to "wanton abuse" as it conferred subjective powers on the police to interpret Section 66A of the IT Act.
- The **Supreme Court bench of Justices J Chelameswar and Rohinton F Nariman agreed with the contention holding that Section 66A** created an offence on the basis of undefined actions such as causing "inconvenience, danger, obstruction and insult".
- The Supreme Court held that these actions were not mentioned as exceptions granted under Article 19 and did not qualify for reasonable restrictions mentioned in the Constitution.
- The judgment also found that the law did not have enough procedural safeguard leaving the local authorities to proceed autonomously on the whim of their political masters.
- The Supreme Court held Section 66A of the IT Act to be violating Articles 19 (right to freedom of speech and expression) and 21 (right to life) as it pronounced death sentence on the law.
- In its order, the Supreme Court rendered Section 66A extinct from the very date of its insertion into the IT Act October 27, 2009. But it lived on.

4 DELIMITATION

The delimitation commission was set up six months after the Centre abrogated Article 370 and revoked Jammu and Kashmir's special status in August 2019. The reorganisation of Jammu and Kashmir in 2019 requires delimitation process to complete.



- Delimitation literally means the act or process of fixing limits or boundaries of territorial constituencies in a country or a province having a legislative body. The job of delimitation is assigned to a high power body. Such a body is known as Delimitation Commission or a Boundary Commission.
- In India, such Delimitation Commissions have been constituted 4 times in 1952 under the Delimitation Commission Act, 1952, in 1963 under Delimitation Commission Act, 1962, in 1973 under Delimitation Act, 1972 and in 2002 under Delimitation Act, 2002.
- The Delimitation Commission in India is a high power body whose orders have the force of law and cannot be called in question before any court. These orders come into force on a date to be specified by the President of India in this behalf. The copies of its orders are laid before the House of the People and the State Legislative Assembly concerned, but no modifications are permissible therein by them.

Delimitation Commission for J&K

- In March 2020, six months after the reorganisation of Jammu and Kashmir, the Delimitation Commission was constituted to the Union Territory.
- It is headed by **Justice (retired) Ranjana Desai**. It was given an extension of one year in March this year.
- $\circ~$ The commission has five MPs from Jammu and Kashmir as associate members.
- Their recommendations are, however, not binding on the commission, which is in Jammu and Kashmir to gather ground-level information about the ongoing process.

Why J&K needed delimitation?

- Before the enactment of Jammu and Kashmir Reorganisation Act, 2019, which birfucated the erstwhile state, its assembly had 107 MLAs.
- The law increased the strength of the assembly in the newly carved Union Territory to 114. This also includes 24 seats falling under Pakistan-occupied Kashmir (PoK).
- $\circ~$ In practice, the effective strength of Jammu and Kashmir Assembly when elected will increase to 90. Earlier, it was 83.
- Since the number of constituencies has altered, the boundaries of the existing constituencies need to be redrawn before assembly election could be held in Jammu and Kashmir, which does not have an elected government after the Mehbooba Mufti government fell in June 2018.

How is delimitation done?

- It is a bureaucratic process. According to **Article 82 of the Constitution**, Parliament enacts a Delimitation Act after Census that is held every 10 years.
- The Union government then constitutes a **Delimitation Commission** headed by a retired Supreme Court judge.
- The commission examines **population data**, **existing constituencies**, **the number of seats to be analysed**, **holds meetings with all the stakeholders and submits its recommendation to the government**.
- The draft report of the Delimitation Commission is published in the Gazette of India, the official gazettes of the states concerned and at least two vernacular publications seeking feedback from the general public.
- Feedback has been received is studied and if needed changes are made in the final report that is published in the Gazette of India and the state gazettes.
- From the date notified the President, the Delimitation Commission's final order is implemented. This becomes the basis for all future elections until the next delimitation.



What if fresh delimitation is conducted for parliamentary polls?

That question will come during the tenure of next Lok Sabha in 2026. It is estimated - based on 2011 Census data - that when boundaries are redrawn for parliamentary constituencies, the strength of the Lok Sabha would go up from 543 to 888. That of the Rajya Sabha may climb to 384 from existing 245.

LOK ADALAT

- NALSA along with other Legal Services Institutions conducts Lok Adalats.
- Lok Adalat is **one of the alternative dispute redressal mechanisms**, it is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/ compromised amicably.
- Lok Adalats have been given statutory status under the Legal Services Authorities Act, 1987.
 Under the said Act, the award (decision) made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties and no appeal against such an award lies before any court of law.
- If the parties are not satisfied with the award of the Lok Adalat though there is no provision for an appeal against such an award, but they are free to initiate litigation by approaching the court of appropriate jurisdiction by filing a case by following the required procedure, in exercise of their right to litigate.
- There is **no court fee payable** when a matter is filed in a Lok Adalat. If a matter pending in the court of law is referred to the Lok Adalat and is settled subsequently, the court fee originally paid in the court on the complaints/petition is also refunded back to the parties.
- The persons deciding the cases in the Lok Adalats are called the **Members of the Lok Adalats**, they have the role of statutory conciliators only and do not have any judicial role; therefore they can only persuade the parties to come to a conclusion for settling the dispute outside the court in the Lok Adalat and shall not pressurize or coerce any of the parties to compromise or settle cases or matters either directly or indirectly.
- The Lok Adalat shall not decide the matter so referred at its own instance, instead the same would be decided on the basis of the compromise or settlement between the parties. The members shall assist the parties in an independent and impartial manner in their attempt to reach amicable settlement of their dispute.

Nature of Cases to be Referred to Lok Adalat

1. Any case pending before any court.

- 2. Any dispute which has not been brought before any court and is likely to be filed before the court.
- Provided that any matter relating to an offence not compoundable under the law shall not be settled in Lok Adalat.
- The State Legal Services Authority or District Legal Services Authority as the case may be on receipt of an application from any one of the parties at a pre-litigation stage may refer such matter to the Lok Adalat for amicable settlement of the dispute for which notice would then be issued to the other party.

Levels and Composition of Lok Adalats:

- **At the State Authority Level**: The Member Secretary of the State Legal Services Authority organizing the Lok Adalat would constitute benches of the Lok Adalat, each bench comprising of a sitting or retired judge of the High Court or a sitting or retired judicial officer and any one or both of- a member from the legal profession; a social worker engaged in the upliftment of the weaker sections and interested in the implementation of legal services schemes or programmes.
- **At High Court Level**: The Secretary of the High Court Legal Services Committee would constitute benches of the Lok Adalat, each bench comprising of a sitting or retired judge of the High Court and any one or both of- a member from the legal profession; a social worker engaged in the upliftment of the weaker sections and interested in the implementation of legal services schemes or programmes.



- **At District Level**: The Secretary of the District Legal Services Authority organizing the Lok Adalat would constitute benches of the Lok Adalat, each bench comprising of a sitting or retired judicial officer and any one or both of either a member from the legal profession; and/or a social worker engaged in the upliftment of the weaker sections and interested in the implementation of legal services schemes or programmes or a person engaged in para-legal activities of the area, preferably a woman.
- **At Taluk Level**: The Secretary of the Taluk Legal Services Committee organizing the Lok Adalat would constitute benches of the Lok Adalat, each bench comprising of a sitting or retired judicial officer and any one or both of either a member from the legal profession; and/or a social worker engaged in the upliftment of the weaker sections and interested in the implementation of legal services schemes or programmes or a person engaged in para-legal activities of the area, preferably a woman.
- **National Lok Adalat**: National Level Lok Adalats are held for at regular intervals where on a single day Lok Adalats are held throughout the country, in all the courts right from the Supreme Court till the Taluk Levels wherein cases are disposed off in huge numbers.

Permanent Lok Adalat

- The other type of Lok Adalat is the Permanent Lok Adalat, organized under Section 22-B of The Legal Services Authorities Act, 1987.
- Permanent Lok Adalats have been set up as permanent bodies with a Chairman and two members for providing compulsory pre-litigative mechanism for conciliation and settlement of cases relating to Public Utility Services like transport, postal, telegraph etc. Here, even if the parties fail to reach to a settlement, the Permanent Lok Adalat gets jurisdiction to decide the dispute, provided, the dispute does not relate to any offence. Further, the Award of the Permanent Lok Adalat is final and binding on all the parties.
- The jurisdiction of the Permanent Lok Adalats is upto Rs. Ten Lakhs.
- Here if the parties fail to reach to a settlement, the Permanent Lok Adalat has the jurisdiction to decide the case. The award of the Permanent Lok Adalat is final and binding upon the parties.
- The Lok Adalat may conduct the proceedings in such a manner as it considers appropriate, taking into account the circumstances of the case, wishes of the parties like requests to hear oral statements, speedy settlement of dispute etc.

Mobile Lok Adalats are also organized in various parts of the country which travel from one location to another to resolve disputes in order to facilitate the resolution of disputes through this mechanism.

4 CORPORATE SOCIAL RESPONSIBILITY (CSR)

- Corporate Social responsibility (CSR) is **continuing commitment by businesses to integrate social and environmental concerns in their business operations.** Changes in the global environment increasingly challenge business around the world to look beyond financial performance, and to integrate social and environmental concerns into their strategic management.
- Prior to **Companies Act 2013**, CSR in India has traditionally been seen as a philanthropic activity. And in keeping with the Indian tradition, it was believed that every company has a moral responsibility to play an active role in discharging the social obligations, subject to the financial health of the company. Mahatma Gandhi introduced the concept of trusteeship helping socio-economic growth. CSR was influenced by family values, traditions, culture and religion.
- On 29th August 2013, The Companies Act 2013 replaced the Companies Act of 1956. The New Act has introduced far-reaching changes that affect company formation, administration, and governance, and incorporates an additional section i.e. Section 135 clause on Corporate Social Responsibility obligations ("CSR") for companies listed in India. The clause covers the essential prerequisites pertaining to the execution, fund allotment and reporting for successful project implementation
- India became the first country to legislate the need to undertake CSR activities and mandatorily report CSR initiatives under the new Companies Act 2013. This is the beginning of a new era for CSR in India.



Entities Covered by the CSR Obligations

- The Section 135 is applicable to companies which have an annual turnover of Rs.1,000 crore or more
- or a net worth of Rs.500 crore or more
- or a net profit of Rs.5 crore or more.
- Companies meeting the above criteria are required to **constitute a CSR Committee** consists of three directors and one director shall be an independent director.
- An unlisted public company or a private company covered under Section 135(1) of the Act, which is not required to appoint an independent director, shall have its CSR Committee without such director and a private company with two directors on Board should constitute its CSR Committee with only two directors.
- The CSR Committee shall institute a transparent monitoring mechanism for implementation of the CSR projects or programs or activities undertaken by the company. The companies falling under the prescribed criteria are required to spend a minimum 2% of its average net profit for its preceding three financial years amount on CSR activities and report on the activities detailed in Schedule VII, or prepare to explain why they didn't.

Suggested Areas of Activities for companies to implement their CSR in PROJECT MODE are :

- **1. Eradicating hunger, poverty and malnutrition**, promoting health care including preventive health care and sanitation including contribution to the Swachh Bharat Kosh set-up by the Central Government for the promotion of sanitation and making available safe drinking water;
- **2. Promoting education**, including special education and employment enhancing vocation skills especially among children, women, elderly and the differently abled and livelihood enhancement projects;
- **3. Promoting gender equality**, empowering women, setting up homes and hostels for women and orphans; setting up old age homes, day care centres and such other facilities for senior citizens and measures for reducing inequalities faced by socially and economically backward groups;
- **4. Ensuring environmental sustainability**, ecological balance, protection of flora and fauna, animal welfare, agroforestry, conservation of natural resources and maintaining quality of soil, air and water including contribution to the Clean Ganga Fund setup by the Central Government for rejuvenation of river Ganga;
- **5. Protection of national heritage, art and culture** including restoration of buildings and sites of historical importance and works of art; setting up public libraries; promotion and development of traditional art and handicrafts;
- 6. Measures for the benefit of armed forces veterans, war widows and their dependents;
- 7. Training to promote rural sports, nationally recognized sports, Paralympic sports and Olympic sports;
- **8. Contribution to the Prime Minister's National Relief Fund** or any other fund set up by the Central Govt. for socio economic development and relief and welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women;
- **9. Contributions or funds provided to technology incubators** located within academic institutions which are approved by the Central Govt.
- **10.** Rural development projects
- **11.**Slum area development.

4 LOKPAL

- Lokpal is an **anti-corruption body or ombudsman**, responsible for looking into corruption complaints at the national level.
- The Lokpal and Lokayuktas Act was passed by the parliament in 2013.
- o In 2019, retired Supreme Court judge Pinaki Chandra Ghose was appointed as the first Lokpal of India.



Who are the public servants covered by the Act?

- The Lokpal has jurisdiction to inquire into allegations of corruption against anyone who is or has been Prime Minister, or a Minister in the Union government, or a Member of Parliament, as well as officials of the Union government under Groups A, B, C and D. Also covered are chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either established by an Act of Parliament or wholly or partly funded by the Centre.
- o It also covers any society or trust or body that receives foreign contribution above ₹10 lakh.

What happens if a charge is made against the PM?

- The Lokpal cannot inquire into any corruption charge against the Prime Minister if the allegations are related to **international relations**, **external and internal security**, **public order**, **atomic energy and space**, unless a full Bench of the Lokpal, consisting of its chair and all members, considers the initiation of a probe, and at least two-thirds of the members approve it.
- Such a hearing should be held in camera, and if the complaint is dismissed, the records shall not be published or made available to anyone.

How can a complaint be made and what happens next?

- A complaint under the Lokpal Act should be in the prescribed form and must pertain to an offence under the Prevention of Corruption Act against a public servant.
- There is no restriction on who can make such a complaint.
- When a complaint is received, the Lokpal may order a preliminary inquiry by its Inquiry Wing, or refer it for investigation by any agency, including the CBI, if there is a prima facie case.
- Before the ordering of an investigation by the agency, the Lokpal shall call for an explanation from the public servant to determine whether a prima facie case exists. This provision, the Act says, will not interfere with any search and seizure that may be undertaken by the investigating agency.
- The Lokpal, with respect to Central government servants, may refer the complaints to the Central Vigilance Commission (CVC). The CVC will send a report to the Lokpal regarding officials falling under Groups A and B; and proceed as per the CVC Act against those in Groups C and D.

What is the procedure for preliminary inquiry?

- The Inquiry Wing or any other agency will have to complete its preliminary inquiry and submit a report to the Lokpal within 60 days.
- It has to seek comments from both the public servant and "the competent authority," before submitting its report.
- There will be a 'competent authority' for each category of public servant. For instance, for the Prime Minister, it is the Lok Sabha, and for other Ministers, it will be the Prime Minister. And for department officials, it will be the Minister concerned.
- A Lokpal Bench consisting of no less than three members shall consider the preliminary inquiry report, and after giving an opportunity to the public servant, decide whether it should proceed with the investigation.
- It can order a full investigation, or initiate departmental proceedings or close the proceedings. It may also proceed against the complainant if the allegation is false.
- The preliminary inquiry should normally be completed within 90 days of receipt of the complaint.

What happens after the investigation?

• The agency ordered to conduct the probe has to file its investigation report in the court of appropriate jurisdiction, and a copy before the Lokpal.



- A Bench of at least three members will consider the report and may grant sanction to the **Prosecution Wing** to proceed against the public servant based on the agency's chargesheet.
- $\circ~$ It may also ask the competent authority to take departmental action or direct the closure of the report.
- Previously, the authority vested with the power to appoint or dismiss a public servant was the one to grant sanction under Section 197 of the Code of Criminal Procedure and Section 19 of the Prevention of Corruption Act. Now this power will be exercised by the Lokpal, a judicial body.
- In any case, the Lokpal will have to seek the comments of the 'competent authority' as well as the public servant's comments before granting such sanction.

Who are the functionaries of the Lokpal?

- The Lokpal will have a Secretary, who will be appointed by the Lokpal Chairperson from a panel of names prepared by the Central government.
- The Secretary will be of the rank of Secretary to the Government of India.
- The Lokpal will have to appoint an Inquiry Wing, headed by a Director of Inquiry, and a Prosecution Wing, headed by a Director of Prosecution.
- Until these officers are appointed, the government will have to make available officers and staff from its Ministries and Departments to conduct preliminary inquiries and pursue prosecution. The institution will also have to appoint other officers and staff.

Is there any norm for disclosure of assets?

- Yes. Public servants will have to declare their assets and liabilities in a prescribed form.
- If any assets found in their possession is not declared, or if misleading information about these are furnished, it may lead to an inference that assets were acquired by corrupt means.
- For public servants under the State governments, the States have to set up Lok Ayuktas to deal with charges against their own officials.

4 SPEEDY TRIAL

- The constitutional guarantee of speedy trial is an **important safeguard to prevent undue and oppressive incarceration** prior to trial; to minimize concern accompanying public accusation and to limit the possibilities that long delays will impair the ability of an accused to defend himself.
- The right to a speedy trial is first mentioned in that **landmark document of English law, the Magna Carta**. The constitutional philosophy propounded as right to speedy trial has though grown in age by almost two and a half decades, the goal sought to be achieved is yet a far-off peak.
- It is a concept which deals with speedy disposal of cases to make the judiciary more effective and to impart justice as fast as possible. **Article 21 declares** that no person shall be deprived of his life or personal liberty except according to the procedure laid by law.
- Justice Krishna Iyer while dealing with the bail petition in Babu Singh v. State of UP, remarked, "Our justice system even in grave cases, suffers from slow motion syndrome which is lethal to 'fair trial' whatever the ultimate decision. Speedy justice is a component of social justice since the community, as a whole, is concerned in the criminal being finally punished within a reasonable time and the innocent being absolved from the inordinate ordeal of criminal proceedings."
- Speedy trial is a fundamental right implicit in the guarantee of life and personal liberty enshrined in Article 21 of the Constitution and any accused who is denied this right of speedy trial is entitled to approach Supreme Court under Article 32 for the purpose of enforcing such right and this Court in discharge of its constitutional obligation has the power to give necessary directions to the State Governments and other appropriate authorities for securing this right to the accused.
- In **Sheela Barse v. Union of India** court reaffirmed that speedy trial to be fundamental right. Right to speedy trial is a concept gaining recognition and importance day by day. There are 3 pillars of social restraint and order in India:-



Factors for Pendency of The Cases- Delay in cases can be of two types:

- 1. Court system delay which accounts for the period of entering the cause till it's taken up for trial.
- 2. Delay due to professional courtesy of lawyers towards each other and lawyer's vis-à-vis the court. However, the chief reasons for delays can be enumerated as follows:
- 1. The **judge population ratio** presently taking into consideration the population of the country and pendency of the cases the no. of judges available are very less.
- 2. The functioning of the judiciary is independent in nature but it doesn't mean it is not accountable to anyone. Considering this factor it can be concluded that it **drives the judges toward leisure and comfort** which ultimately results in delay of the cases. The Woolf report of 1996, had emphasized to make judiciary accountable by generating accurate judicial statistics.
- 3. **Provision for adjournment**: The main reason for the delay in the cases is the adjournment granted by the court on flimsy grounds. Section 309 of Code of Criminal Procedure (CrPC) and Rule 1,Order XVII of Code of Civil Procedure (CPC) deals with the adjournments and power of the court to postpone the hearing.
- 4. **Vacation of the court**: The reason with providing courts with a vacation period is a debate going on when in country like India pendency of cases is huge. In most of the countries like U.S. and France there is no such provision.
- 5. **Hurried and ill-drafted legislations and statutes** on diverse topics enacted, contribute to some extent to the inflow of cases.

Justice Delayed Is Justice Denied: Conclusion

- The right to speedy trial is not a fact or fiction but a Constitutional reality and it has to be given its due respect.
- Repeated delays and continuances in the criminal justice process prevent victims from ever reaching emotional, physical, and financial closure to the trauma suffered as a result of the crime(s) perpetrated against them. Such delays in prosecution can also limit the ability of victims to receive justice when their memories, or those of other witnesses, fade with the passage of time or when the victim's health deteriorates.
- Though there are no specific provisions for speedy trial, by judicial interpretation, the Supreme Court has held article 21 of the constitution confers the right on the accused. It is in the interest of all the concerned that the case is disposed off quickly and justice seems to occur.
- In **Abdul Rehman v. R.S Nayak** the SC observed that the ultimately it's the court which decides whether right to speedy trial has been denied or not. Every-time when proceedings cannot be quashed as it might not be in interest of the society.
- In the case **Madheshwardhari Singh v. State of Bihar** it was held that all criminal prosecutions are now inalienable fundamental rights to citizens.
- Moreover, in the case **Arun Kumar Ghosh v. State of Bengal** it was held that mental torture and anxiety suffered by an accused for a long length of time is to be treated ad punishment inflicted on him.
- The situation today is so grim that if a poor is able to reach to the stage of a high court, it should be considered as an achievement. Finally, to conclude with the words of **Lord Hewet** as it is of fundamental importance that justice should not only be done, but should manifestly and undoubtedly be seen to be done.

4 PRIVILEDGE MOTION

- All Members of Parliament (MPs) enjoy rights and immunities, individually and collectively, so that they can discharge their duties and functions effectively.
- Any instance when these rights and immunities are disregarded by any member of Lok Sabha or Rajya Sabha is an offence, called **'breach of privilege'**, which is punishable under the Laws of Parliament.
- Any member from either house can move a notice in the form of a motion against the member who he/she thinks is guilty of the breach of privilege.



• **Both Houses of the Parliament reserve the right to punish any action of contempt** (not necessarily breach of privilege) which is against its authority and dignity, as per the laws.

What are the rules governing Privilege Motion?

- The rules governing the privilege are mentioned in the Rule No 222 in Chapter 20 of the Lok Sabha Rule Book and Rule 187 in Chapter 16 of the Rajya Sabha rulebook.
- The rules explain that any member of the House may, with the consent of the Speaker or the Chairperson, raise a question involving an incident that he or she considers a breach of privilege either of a member or of the House or of a committee.
- The notice, however, has to be about a recent incident and should need the intervention of the House. These notices have to be submitted before 10 am to the Speaker or the Chairperson of the House.

What is the role of the Lok Sabha Speaker and Rajya Sabha Chairperson?

- The speaker of Lok Sabha and the Chairperson of Rajya Sabha are the first level of scrutiny of a privilege motion in the two Houses of Parliament. They can either take a decision on the privilege motion or can also refer it to the privileges committee of Parliament.
- Once the Speaker or the House Chairperson gives consent under Rule 222, the concerned member is allowed to explain himself or herself.

What is the Privileges Committee?

- $\circ~$ The Speaker of Lok Sabha nominates a committee of privileges consisting of 15 members of parliament from each party.
- \circ The report prepared by the committee is submitted to the House for its consideration.
- The Speaker may also allow a half-hour debate on the report by the committee before passing orders or directing that the report be tabled before the House. A resolution is passed.

4 SOVEREIGN RIGHT TO TAXATION

- In India, the Constitution gives the government the right to levy taxes on individuals and organisations, but makes it clear that no one has the right to levy or charge taxes except by the authority of law.
- Any tax being charged has to be backed by a law passed by the legislature or Parliament.
- A document on the Ministry of Statistics and Programme Implementation website quotes the definition of tax as a "pecuniary burden laid upon individuals or property owners to support the government, a payment exacted by legislative authority", and that a tax "is not a voluntary payment or donation, but an enforced contribution, exacted pursuant to legislative authority".
- Taxes in India come under a three-tier system based on the Central, State and local governments, and the Seventh Schedule of the Constitution puts separate heads of taxation under the Union and State list.
- There is no separate head under the Concurrent list, meaning Union and the States have no concurrent power of taxation, as per the document.



ECONOMY

(Global and Indian)

4 NON-FOOD BANK CREDIT

The non-food bank credit growth slowed to 5.9% in May 2021 compared with 6.1% in the year-earlier month, RBI data showed.

Bank Credit

- The Bank credit in India refers to **credit lending by various scheduled commercial banks (SCBs)** to various sectors of the economy.
- The bank credit is categorized into food credit and non-food credit.
- The food credit indicates the **lending made by banks to the Food Corporation of India (FCI)** mainly for procuring foodgrains. It is a small share of the total bank credit.
- The **major portion of the bank credit is the non-food credit** which comprises of credit to various sectors of the economy (Agriculture, Industry, and Services) and also in the form of personal loans.
- The data on bank credit is collected on a monthly basis by the Reserve Bank of India (RBI). The data is sourced from 46 commercial banks, accounting for about 95% of the total non-food credit deployed by all scheduled commercial banks (SCBs).

Current Scenario

- Credit to agriculture and allied activities continued to perform well, registering an accelerated growth of 10.3% compared with 5.2%.
- Size-wise, credit to medium industries registered a robust growth of 45.8% compared with a contraction of 5.3% a year earlier.
- Credit growth to micro and small industries accelerated to 5% compared with a contraction of 3.4%, while credit to large industries contracted by 1.7% compared with 2.8% growth.
- Loan growth to the services sector decelerated to 1.9%, from 10.3%, mainly due to deceleration in credit growth to NBFCs, transport operators and commercial real estate. Personal loans registered an accelerated growth of 12.4% (10.6%).

4 SUBSIDY SCHEME FOR SHIPPING COMPANIES

- The Union Cabinet approved a scheme under which Indian shipping companies will be given a subsidy **as** they bid for global tenders for the import of cargo by the government or government entities.
- As part of the scheme, the central government will provide a subsidy of up to Rs 1,624 crore in the next five years to the Indian shipping companies.
- Indian flagged ships will be provided subsidy support of 5-15 percent to match the lowest bid for an import order by the government or government entities.

Scenario

- Despite having a 7,500-km long coastline, India's fleet comprises a meagre 1.2% of the world fleet in terms of capacity. The share of Indian ships in the carriage of export and import trade has declined from 40.7% in 1987-88 to about 7.8% in 2018-19. This has also resulted in an increase in foreign exchange outgo on account of freight bill payments to foreign shipping companies, which was at \$53 billion in 2018-19.
- While the pandemic has led to a drastic cutdown of India's commodity imports in FY21, major imports such as processed petroleum, coal, steel, and copper continued to stream in.



- Processed petroleum, which continues to be the single largest item in the country's import bill, stood at \$ 59.4 billion. This was down from the \$102.7 billion worth of petroleum imported in FY20.
- India's coal imports, most of which was in the form of coking coal or steam coal, stood at \$ 15.6 billion, down from \$21.5 billion in 2019-20.
- Likewise, \$8.2 billion worth of iron and steel was imported, down from \$10.7 billion in FY20.
- Copper, in all forms, was imported to the tune of \$4.6 billion in FY21, down from \$ 5 billion in the previous year.
- While the government's share in the total imports is very small, large public sector undertakings (PSUs) like Indian Oil Corporation, Bharat Petroleum Corporation, Hindustan Petroleum Corp, National Aluminium Company and the Oil and Natural Gas Corporation import a significant portion of their raw materials.

Why do Indian shipping companies need a subsidy to compete with global players?

There are four major reasons why the Indian shipping industry needs a subsidy to compete with the rates offered by foreign players. These are –

- 1. lack of carrying capacity,
- 2. inadequate large domestic ship manufacturing, or ship re-pair facility,
- 3. international alliances by large shipping companies and
- 4. geopolitical trade wars.

4 EQUITY MARKET

- Equity market is a place where stocks and shares of companies are traded. The equities that are traded in an equity market are either over the counter or at stock exchanges.
- Often called as stock market or share market, an equity market allows sellers and buyers to deal in equity or shares in the same platform.
- Equity market, often called as stock market or share market, is a place where **shares of companies or entities are traded.** The market allows sellers and buyers to deal in equity or shares in the same platform.
- In the global context, equities are traded either over the counter or at stock exchanges. There are multiple buyers and sellers of the same equity/share.
- There is virtually no difference between stock and equity. These two words are commonly used to mean shares. Stock and equity are just synonyms.

How Is Equity Market In India?

- Equities are mostly traded on the stock exchanges in India. In the Indian stock market, equities are available for trading at the National Stock Exchange (NSE), the Bombay Stock Exchange (BSE) and the latest entrant, Metropolitan Stock Exchange of India (MSE). Shares of stock market listed companies are bought/sold.
- Equity share trading is roughly in two forms **spot/cash market** and **futures market**. These are the different types of equity market in India. The spot market or cash market is a public financial market in which stocks are traded for immediate delivery. The futures market is a place where the shares' delivery is due at a later date.
- Shares/stocks traded in the equity market belong to companies that show growth. Investors typically invest in 'growth' stocks, which belong to small companies showing potential for high growth rates. The growth stocks are those where investors are ready to make big bids in the live equity market, be it in India or global equity market.



How Do Equity Markets Work ?

- The concept behind how the stock market works is simple. Think of an auction house where buyers and sellers negotiate prices and make trades. Now, substitute the auction house and items with equity market and shares. Companies list their shares on an exchange. Investors can buy shares in the primary market i.e. IPOs, and secondary market.
- The stock market is regulated by a financial watchdog. The equity market is maintained by stock exchanges, and various stakeholders like brokers, dealers, clearing corporations etc. It is an extended family of institutions and this is the true equity market meaning.

Positives	Negatives
 Wealth creation: The biggest benefit of the equity market is the opportunity to make huge profit. Many investors have experienced big returns that can never be given by any other financial investment. Enter and exit: In case of equity market, you can easily enter and exit a stock. This should be compared to when you want to sell a house, where you cannot sell it on your own will always. Lower taxes: When an equity is sold for profit after holding for more than 1 year, the profit attracts 10% tax. In case of fixed deposits, the tax rate is as per the individual's tax rate i.e up to 30%. 	 costly: If you do not properly do research or invest in bad stocks, your chances of making losses are high. Equity market can be volatile: Equity investment return does not move in a straight line. There are upswings and downswings in the live equity market. There is risk of capital erosion:

4 DRAFT E-COMMERCE RULES

The government has proposed changes to the e-commerce rules under the Consumer Protection Act to make the framework under which firms operate more stringent. While a number of new provisions are similar to what the Centre sought of social media companies through the IT intermediary rules announced earlier this year, several proposals in the e-commerce rules are aimed at increasing liabilities for online retailers for goods and services purchased on their platforms.

- **Firstly**, the draft rules issued by the Consumer Affairs Ministry seek to ban "**specific flash sales**" by ecommerce entities. While as per the draft rules, conventional e-commerce flash sales are not banned, specific flash sales or back-to-back sales "which limit customer choice, increase prices and prevents a level playing field are not allowed".
- The rules have also introduced the concept of **"fall-back liability"**, which says that e-commerce firms will be held liable in case a seller on their platform fails to deliver goods or services due to negligent conduct, which causes loss to the customer. In several cases, when problems arise with goods purchased from their marketplaces, e-commerce platforms direct the consumers to the respective sellers to solve any grievance. With fall-back liability, consumers will be able to reach out to the platform itself.
- The rules also propose to restrict e-commerce companies from "**manipulating search results or search indexes**", in what comes as a response to a long-standing demand from sellers and traders to prevent preferential treatment to certain platforms.

What else do these new rules change for consumers?

• E-commerce companies will also be restricted from **making available to any person information pertaining to the consumer without express and affirmative consent**. No entity shall record consent automatically, including in the form of pre-ticked checkboxes.



- Further, the companies will have to **provide domestic alternatives to imported goods**, adding to the government's push for made-in-India products.
- The draft amendment also proposes to ask e-commerce firms to mandatorily **become a part of the National Consumer Helpline.**

What changes for e-commerce companies?

- Any online retailer will first have to **register itself with the Department of Promotion for Industry and Internal Trade (DPIIT).**
- The rules propose mandating that **no** logistics service provider of a marketplace e-commerce entity shall provide **differentiated treatment between sellers of the same category.**
- Taking on from the DPIIT's foreign direct investment policy for e-commerce marketplaces, parties and associated enterprises related to e-commerce companies will not be allowed to be enlisted as sellers on the respective platform.
- Any entity having 10 per cent or more common ultimate beneficial ownership will be considered an **"associated enterprise" of an e-commerce platform.**

What are the commonalities with the IT intermediary rules?

- On the lines of the IT intermediary rules announced for social media companies, the Consumer Affairs Ministry has proposed to mandate e-commerce companies appoint a grievance officer, a chief compliance officer and a nodal contact person "for 24×7 coordination with law enforcement agencies".
- The provisions also look to ask e-commerce companies to share information with a "government agency which is lawfully authorised for investigative or protective or cyber security activities, for the purposes of verification of identity, or for the prevention, detection, investigation, or prosecution, of offences under any law for the time being in force, or for cyber security incidents".
- The draft rules propose that the information sought by the government agency will have to be produced by the e-commerce company "within 72 hours of the receipt of an order from the said authority".

4 RIGHT TO REPAIR

U.S. President Joe Biden signed an executive order calling on the **Federal Trade Commission (FTC)** to prevent companies from restricting customers from repairing their own products -- including laptops, smartphones, cars, washing machines, and heavy manufacturing equipment.

Why is the 'Right To Repair' movement important?

- Consumers often spend huge amount of money on these appliances and gadgets, and sometimes find them to become obsolete within a few years after purchase. For example, a smartphone's battery is likely to degrade over time and slow down the device's performance. And, if the battery is not replaceable, the consumer is forced to dump the device and spend thousands of rupees on a new phone.
- **Fragile and irreparable components also reduce the life of a product**. Manufacturers, too, drop support for functional devices, and non-standard parts. Most modern technology consists of irreparable and irreplaceable components, especially if it is powered by sophisticated computer chips.
- With products becoming difficult to repair, activists and consumer organisations are advocating the 'Right to Repair' movement, which aims to enable consumers to repair their electronics products by themselves or third-party technicians.
- Repair is also a critical function for **all forms of re-use and even extended useful life**. Products that cannot be repaired become instant electronic-waste," not-for-profit organisation Repair.org has said on its website. Moreover, some experts believe the law could force electronics manufacturers to make better quality products, but at higher costs to consumers.



• Another objective of the movement includes retention of value of the product which is lost if it is irreparable. Ultimately, it aims at retention of power in the hands of the consumer.

How are tech companies reacting?

- Tech giants including Amazon, Apple, Microsoft, and Tesla disfavour the movement stating it threatens the protection of intellectual property and trade secrets.
- Apple Inc last year was fined \$113 million for artificially slowing down all older models of the iPhone. Previously in 2017, Apple started offering battery discounts to affected users, which could have been avoided if Apple permitted third-party battery replacements.
- Microsoft and Google have also opposed the legislation, stating it allows unvetted access to sensitive diagnostic information and software.
- Tech mogul Elon Musk's Tesla has said such an act would weaken the system's cybersecurity and make it prone to attacks.

4 GROSS NON-PERFORMING ASSET (GNPA)

The gross non-performing asset (GNPA) ratio of India's Scheduled Commercial Banks (SCBs) may climb by the end of the current fiscal year to as much as 11.2% under a severe stress scenario, from 7.48% in March 2021, the Reserve Bank of India (RBI) said in the Financial Stability Report.

- **Non-Performing Assets (NPA):** NPA expands to non-performing assets (NPA). Reserve Bank of India defines NPA as any advance or loan that is overdue for more than 90 days.
- **Categories of NPA:** There are different types of non-performing assets depending on how long they remain in the NPA category.
- **a. Sub-Standard Assets:** An asset is classified as a sub-standard asset if it remains as an NPA for a period less than or equal to 12 months.
- **b. Doubtful Assets:** An asset is classified as a doubtful asset if it remained as an NPA for more than 12 months.
- **c.** Loss Assets: An asset is considered as a loss asset when it is "uncollectible" or has such little value that its continuance as a bankable asset is not suggested. However, there may be some recovery value left in it as the asset has not been written off wholly or in parts.

NPA Provisioning

- Keeping aside the technical definition, **provisioning means an amount that the banks set aside from their profits or income in a particular quarter for non-performing assets**; such assets that may turn into losses in the future. It is a method by which banks provide for bad assets and to maintain a healthy book of accounts.
- Provisioning is done according to which category the asset belongs to. The categories have been mentioned in the above section. Not only the type of asset, but provisioning also depends on the type of bank. Like, Tier-I banks and Tier-II banks have different provisioning norms.

GNPA and NNPA

Banks are required to make their NPAs numbers public and to the RBI as well from time to time. There are primarily two metrics that help us to understand the NPA situation of any bank. NPA numbers for a bank will be mentioned in the standalone financial statements of a bank.

NPA in Absolute Numbers

• **GNPA:** GNPA stands for gross non-performing assets. GNPA is an absolute amount. It tells you the total value of gross non-performing assets for the bank in a particular quarter or financial year as the case may be.



• **NNPA:** NNPA stands for net non-performing assets. NNPA subtracts the provisions made by the bank from the gross NPA. Therefore net NPA gives you the exact value of non-performing assets after the bank has made specific provisions for it.

NPA Ratios

NPAs can also be expressed as a percentage of total advances. It gives us an idea of how much of the total advances is not recoverable. The calculation is pretty simple:

- $\circ~$ GNPA ratio is the ratio of the total GNPA of the total advances.
- NNPA ratio uses net NPA to find out the ratio to the total advances.

4 PURCHASING MANAGERS INDEX (PMI)

- The purchasing managers' index (PMI) is an **economic indicator based on surveys of businesses in a given sector.** The most common PMI surveys are the **manufacturing PMI** and the **services PMI**.
- $\circ~$ Understanding the PMI can provide insight into recent market conditions and identify potential economic slowdowns.

What Is the Purchasing Managers' Index?

The purchasing managers' index consists of several different surveys of purchasing managers at businesses in manufacturing or services. These surveys are compiled into a single numerical result depending on one of several possible answers to each question.

The most common elements include:

- New orders
- Factory output
- Employment
- Suppliers' delivery times
- Stocks of purchases

Investors use PMI surveys as leading indicators of economic health, given their insight into sales, employment, inventory, and pricing. Manufacturing sector purchases tend to react to consumer demand and are often among the first visible signs of a slowdown.

How Does the PMI Work?

- The PMI is a **diffusion index**, meaning that it **measures change across multiple indicators**. A diffusion index is particularly useful for identifying **economic turning points**, such as unemployment reporting from the Bureau of Labor Statistics.
- The purchasing managers' index is a diffusion index that indicates whether economic conditions are better or worse at the companies surveyed.
- The formula used to calculate the PMI assigns weights to each common element and then multiplies them by **1 for improvement, 0.5 for no change, and 0 for deterioration**.
- Here is how the formula appears:

 $PMI = (P1^*1) + (P2^*0.5) + (P3^*0)$

- P1 = Percentage of answers reporting improvement
- P2 = Percentage of answers reporting no change
- P3 = Percentage of answers reporting deterioration
- A **figure above 50 denotes an expansion** while **anything below 50 denotes a contraction** in activity. The higher the difference from this mid-point of 50, greater the expansion or contraction.
- Also, the rate of expansion can be judged by **comparing the PMI with that of the previous month reading**. If the latest figure is higher than previous month's, then manufacturing or services is expanding at a faster rate. If it is lower than previous month, then it is growing at lower rate.



Why is it important?

- The PMI is becoming one of the most tracked indicators of business activity across the world. It provides a reliable expectation of how an economy is doing as a whole and manufacturing in particular.
- It is a **good gauge of boom and bust cycles** in the economy and closely watched by investors, business, traders and financial professionals besides economists. Also, the PMI, which is usually released at the start of the month, serves as a leading indicator of economic activity. It comes before the official data on industrial output, core sector manufacturing and GDP growth.
- Even central banks use the PMI to take decisions on interest rates. Besides influencing equity market movements, PMI releases also impact bond and currency markets.
- Since manufacturing sector is often where recessions begin and end, PMI manufacturing is always closely watched. A good reading of PMI enhances the attractiveness of an economy vis-a-vis other competing economies. Suppliers can decide on prices depending on PMI movements.

4 DISINVESTMENT IN INDIA

- In disinvestment, also called **divestment**, there is no change in the management of PSUs from the public to private hands as the government still holds majority equity (51 percent).
- Even when the government's share falls below 51 percent, the rest of the equity may be sold in such a way that no one institution or individual holds enough stake to take control of the management.
- Disinvestment is primarily a money-raising exercise. The proceeds of disinvestment are treated as nondebt creating capital receipts.

Drawbacks of Disinvestment

- Government shareholding in PSUs is a public asset which should not be liquidated to meet the immediate needs.
- PSUs contribute to public finances through dividends and disinvestment can reduce this important source of finance.
- PSUs act as a check on private enterprises and safeguard the wider public interests in the market. For example, in the absence of PSUs, private enterprises may form a cartel.
- When the government goes for a strategic sale/privatization, there are chances of a PSU being sold off at a lower value to a private entity which can be against the larger public interest.

Types of Disinvestment

Disinvestment of a minority stake in PSUs can be done in the following ways:

- 1. Initial Public Offering (IPO): an offer of shares by an unlisted PSU to the public for the first time.
- 2. Follow-on Public Offering (FPO): also known as Further Public Offering, it's an offer of shares by a listed PSU.
- 3. **Offer for sale (OFS):** shares of a PSU are auctioned on the platform provided by the stock exchange.
- 4. **Institutional Placement Programme (IPP):** under this, only selected financial institutions are allowed to participate and the government stake is offered to only such institutions. E.g., mutual funds, insurance, and pension funds such as LIC etc.
- 5. Cross-holdings: in this method, one listed PSU takes up the government stake in another listed PSU.
- 6. **CPSE Exchange Traded Fund (ETF):** Through this route, the government can divest its stake in various PSUs across diverse sectors through a single offering. This mechanism allows the government to monetize its shareholding in those PSUs which form part of the ETF basket.

Disinvestment of a majority stake in PSUs:

- **Strategic sale**: it is the sale of a substantial portion of government shareholding, 50 percent or higher, in a PSU, along with the transfer of management control.
- **Privatization:** it's a type of strategic sale in which the government divests its entire shareholding, along with the transfer of management control, to a private entity.



4 INSOLVENCY AND BANKRUPTCY CODE- 2016

- o Insolvency and Bankruptcy Code (IBC) 2016 was implemented through an act of Parliament.
- o Centre introduced the IBC in 2016 to resolve claims involving insolvent companies.
- The bankruptcy code is a **one stop solution for resolving insolvencies**, which previously was a long process that did not offer an economically viable arrangement. The code aims to protect the interests of small investors and make the process of doing business less cumbersome.
- IBC was **intended to tackle the bad loan problems** that were affecting the banking system.
- The IBC process has **changed the debtor-creditor relationship**. A number of major cases have been resolved in two years, while some others are in advanced stages of resolution.
- It provides for a **time-bound process to resolve insolvency**. When a default in repayment occurs, creditors gain control over debtor's assets and must take decisions to resolve insolvency. Under IBC, debtor and creditor both can start 'recovery' proceedings against each other.
- Companies have to complete the entire insolvency exercise within 180 days under IBC. The deadline may be extended if the creditors do not raise objections on the extension. For smaller companies, including startups with an annual turnover of Rs 1 crore, the whole exercise of insolvency must be completed in 90 days and the deadline can be extended by 45 days. If debt resolution doesn't happen the company goes for liquidation.
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- \circ Companies have to complete the entire insolvency exercise within 180 days under IBC. The deadline may be extended if the creditors do not raise objections on the extension. For smaller companies, including startups with an annual turnover of Rs 1 crore, the whole exercise of insolvency must be completed in 90 days and the deadline can be extended by 45 days. If debt resolution doesn't happen the company goes for liquidation.

INSOLVENCY AND BANKRUPTCY CODE (AMENDMENT) ORDINANCE, 2021

- $\circ~$ It amends the Insolvency and Bankruptcy Code, 2016.
- Insolvency is a situation where individuals or companies are unable to repay their outstanding debt.
- The Code provides a **time-bound process for resolving the insolvency of corporate debtors** (within 330 days) called the corporate insolvency resolution process (CIRP).
- The **debtor himself or its creditors may apply for initiation of CIRP** in the event of a default of at least one lakh rupees. Under CIRP, a committee of creditors is constituted to decide regarding the insolvency resolution. The committee may consider a resolution plan which typically provides for the payoff of debt by merger, acquisition, or restructuring of the company. If a resolution plan is not approved by the committee of creditors within the specified time, the company is liquidated. During CIRP, the affairs of the company are managed by the resolution professional (RP), who is appointed to conduct CIRP.
- **Pre-packaged insolvency resolution**: The Ordinance introduces an alternate insolvency resolution process for micro, small, and medium enterprises (MSMEs), called the pre-packaged insolvency resolution process (PIRP). Unlike CIRP, **PIRP may be initiated only by debtors**. The debtor should have a base resolution plan in place. During PIRP, the management of the company will remain with the debtor.
- **Minimum default amount**: Application for initiating PIRP may be filed in the event of a default of at least one lakh rupees. The central government may increase the threshold of minimum default up to one crore rupees through a notification.



- **Debtors eligible for PIRP**: PIRP may be initiated in the event of a default by a corporate debtor classified as an MSME under the MSME Development Act, 2006. Currently, under the 2006 Act, an enterprise with an annual turnover of up to Rs 250 crore, and investment in plant and machinery or equipment up to Rs 50 crore, is classified as an MSME. For initiating PIRP, the corporate debtor himself is required to apply to the adjudicating authority (National Company Law Tribunal). The authority must approve or reject the application for PIRP within 14 days of its receipt.
- **Approval of financial creditors**: For applying for PIRP, the debtor needs to **obtain approval of at least 66% of its financial creditors** (in value of debt due to creditors) who are not related parties of the debtor. Before seeking approval, the debtor must provide creditors with a base resolution plan. The debtor must also propose the name of the RP along with the application for PIRP. The proposed RP must be approved by at least 66% of the financial creditors.
- Proceedings under PIRP: The debtor will submit the base resolution plan to the RP within two days of the commencement of the PIRP. A committee of creditors will be constituted within seven days of the PIRP commencement date, which will consider the base resolution plan. The committee may provide the debtor with an opportunity to revise the plan. The RP may also invite resolution plans from other persons. Alternative resolution plans may be invited if the base plan: (i) is not approved by the committee, or (ii) is unable to pay the debt of operational creditors (claims related to the provision of goods and services).
- A resolution plan must be **approved by the committee by a vote of at least 66% of the voting shares**. A resolution plan must be approved by the committee within 90 days from the commencement date of PIRP. The resolution plan approved by the committee will be examined by the adjudicating authority. If no resolution plan is approved by the committee, the RP may apply for termination of PIRP. The authority must either approve the plan or order termination of PIRP within 30 days of receipt. Termination of PIRP will result in the liquidation of the corporate debtor.
- **Moratorium:** During PIRP, the debtor will be provided with a moratorium under which certain actions against the debtor will be prohibited. These include filing or continuation of suits, execution of court orders, or recovery of property.
- **Management of debtor during PIRP**: During the PIRP, the board of directors or partners of the debtor will continue to manage the affairs of the debtor. However, the management of the debtor may be vested with the RP if there has been fraudulent conduct or gross mismanagement.
- **Initiation of CIRP**: At any time from the PIRP commencement date but before the approval of the resolution plan, the committee of creditors may decide to terminate PIRP and instead initiate CIRP in respect of the debtor (by a vote of at least 66% of the voting shares).

4 OPEC

- The Organization of the Petroleum Exporting Countries (OPEC) is a **permanent intergovernmental organization of oil-exporting developing nations** that **coordinates and unifies the petroleum policies** of its Member Countries.
- OPEC seeks to **ensure the stabilisation of oil prices in the international oil markets**, with a view to eliminating harmful and unnecessary fluctuations, due regard being given at all times to the interests of oil-producing nations and to the necessity of securing a steady income for them.
- Equally important is OPEC's role in securing an efficient, economic and regular supply of petroleum to consuming nations and a fair return on capital to those investing in the petroleum industry.
- OPEC was **founded on September 14, 1960**, the result of a meeting that took place in the Iraqi capital of **Baghdad**, attended by the **five Founder Members of the Organization: Iran, Iraq, Kuwait, Saudi Arabia and Venezuela.**
- Currently, the Organization comprises **13 Member Countries** namely Algeria, Angola, Congo, Ecuador, Equatorial Guinea, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela.
- OPEC's objective is to co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.



- The organization is committed to finding ways to ensure that oil prices are stabilized in the international market without any major fluctuations. Doing this helps keep the interests of member nations while ensuring they receive a regular stream of income from an uninterrupted supply of crude oil to other countries.
- OPEC recognizes the founding nations as full members. Any country that wishes to join and whose application is accepted by the organization is also considered a full member. These countries must have significant crude petroleum exports.
- Membership to OPEC is only granted after receiving a vote from at least three-quarters of its full members.
- $\circ~$ Associate memberships are also granted to countries under special conditions.

OPEC PLUS

- The non-OPEC countries which export crude oil are termed as OPEC plus countries.
- OPEC plus countries include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

4 CESS IN INDIA

- A **cess is a form of tax levied by the government on tax with specific purposes** till the time the government gets enough money for that purpose.
- Different from the usual taxes and duties like excise and personal income tax, a cess is imposed as an additional tax besides the existing tax (tax on tax). For example, the Swachh Bharat cess is levied by the government for cleanliness activities that it is undertaking across India.
- A cess, generally paid by everyday public, is added to their basic tax liability paid as part of total tax paid.

Difference between tax and cess

- A cess is different from taxes as it is imposed as an additional tax besides the existing tax (tax on tax). Another difference lies in the way the revenue recovered from cess is maintained.
- While revenue from taxes like income tax is kept in the Consolidated Fund of India (CFI) and the government can use it for any purposes it deems fit, the **revenue coming from cess is first credited to the Consolidated Fund, and the government may then, after due appropriation from Parliament, utilise it for the specified purpose**.
- Another major difference between central taxes and cess is that the **proceeds of a cess may or may not be shared with the state governments,** while that of taxes have to be shared.

Various types of cesses levied by the government

The government levies different cesses on services it provides to the public. Some of them are as follows:

- **Education cess:** Collected by the government to provide the mandatory free standard primary education to all citizens.
- Health cess: Proposed in 2018 to meet the health requirements of below-poverty-line families.
- Road cess or fuel cess: For maintenance of roads and infrastructure.
- **Clean energy cess:** Introduced in 2010, it is a carbon tax on the production and import of coal, lignite and peat, operating on the "polluter pays" principle.
- **Krishi Kalyan cess:** It was introduced in 2016 to provide additional support to farmers for agricultural activities.
- **Swachh Bharat cess:** Introduced in 2014 with the objective of delivering a clean India, it is levied at 0.5 per cent on all taxable services to fund Swachh Bharat initiatives.



4 NATIONAL AGRICULTURE INFRA FINANCING FACILITY

- The role of infrastructure is crucial for agriculture development and for taking the production dynamics to the next level. It is only through the development of infrastructure, especially at the post-harvest stage that the produce can be optimally utilized with opportunity for value addition and fair deal for the farmers. Development of such infrastructure shall also address the vagaries of nature, the regional disparities, development of human resource and realization of full potential of our limited land resource.
- In view of above, the Finance Minister announced Rs 1 lakh crore **Agri Infrastructure Fund for farm**gate infrastructure for farmers.
- Financing facility of Rs. 1,00,000 crore will be provided for funding Agriculture Infrastructure Projects at farm-gate & aggregation points (Primary Agricultural Cooperative Societies, Farmers Producer Organizations, Agriculture entrepreneurs, Start-ups, etc.). Impetus for development of farmgate& aggregation point, affordable and financially viable Post Harvest Management infrastructure.
- Accordingly, DAC&FW has formulated the Central Sector Scheme to mobilize a medium long term debt financing facility for investment in viable projects relating to **postharvest management Infrastructure and community farming assets through incentives and financial support.**
- Credit guarantee coverage will be available for eligible borrowers from this financing facility under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme for a loan up to Rs.
 2 crore. The fee for this coverage will be paid by the Government. In case of FPOs the credit guarantee may be availed from the facility created under FPO promotion scheme of DACFW.
- All loans under this financing facility will have **interest subvention of 3% per annum up to a limit of Rs. 2 crore**. This subvention will be available for a maximum period of 7 years. In case of loans beyond Rs.2 crore, then interest subvention will be limited up to 2 crore. The extent and percentage of funding to private entrepreneurs out of the total financing facility may be fixed by the National Monitoring Committee.

Main Features

- o Convergence with all schemes of central or state government.
- Online single window facility in collaboration with participating lending institutions.
- o Project Management Unit to provide handholding support for projects including project preparation
- Size of the financing facility Rs. 1 lakh Cr.
- Credit Guarantee for a loan up to INR 2 crore.
- Interest subvention of 3% p.a., limited to INR 2 crore, though loan amount can be higher.
- $\circ~$ Cap on lending rate, so that benefit of interest subsidy reaches the beneficiary and services to farmers remain affordable.
- Multiple lending institutions including Commercial Banks, Cooperative Banks, NCDC, NBFCs etc.
- Disbursement in four years starting with sanction of Rs.10,000 crore in the first year and Rs 30,000 crore each in next three financial years.
- Moratorium for repayment under this financing facility may vary subject to minimum of 6 months and maximum of 2 years.
- Need based refinance support will be made available by NABARD to all eligible lending entities including cooperative banks and RRBs as per its policy.

ANON-BANKING FINANCIAL COMPANY (NBFC)

• A Non-Banking Financial Company (NBFC) is a company registered under the **Companies Act, 1956** engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hirepurchase, insurance business, chit business but does not include any institution whose principal business is



that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property.

- A non-banking institution which is a company and has principal business of receiving deposits under any scheme or arrangement in one lump sum or in installments by way of contributions or in any other manner, is also a non-banking financial company (Residuary non-banking company).
- NBFCs lend and make investments and hence their activities are akin to that of banks; however, there are a few differences as given below:
- 1. NBFC cannot accept demand deposits;
- 2. NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself;
- 3. Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike in case of banks.
- NBFCs whose asset size is of ₹ 500 cr. or more as per last audited balance sheet are considered as systemically important NBFCs. The rationale for such classification is that the activities of such NBFCs will have a bearing on the financial stability of the overall economy.
- NBFCs are categorized **a**) in terms of the type of liabilities into Deposit and Non-Deposit accepting NBFCs, **b**) non deposit taking NBFCs by their size into systemically important and other non-deposit holding companies (NBFC-NDSI and NBFC-ND) and **c**) by the kind of activity they conduct. Within this broad categorization the different types of NBFCs are as follows:
- 1. Asset Finance Company (AFC) : An AFC is a company which is a financial institution carrying on as its principal business the financing of physical assets supporting productive/economic activity, such as automobiles, tractors, lathe machines, generator sets, earth moving and material handling equipments, moving on own power and general purpose industrial machines. Principal business for this purpose is defined as aggregate of financing real/physical assets supporting economic activity and income arising therefrom is not less than 60% of its total assets and total income respectively.
- **2. Investment Company (IC)** : IC means any company which is a financial institution carrying on as its principal business the acquisition of securities.
- **3.** Loan Company (LC): LC means any company which is a financial institution carrying on as its principal business the providing of finance whether by making loans or advances or otherwise for any activity other than its own but does not include an Asset Finance Company.
- **4. Infrastructure Finance Company (IFC):** IFC is a non-banking finance company a) which deploys at least 75 per cent of its total assets in infrastructure loans, b) has a minimum Net Owned Funds of ₹ 300 crore, c) has a minimum credit rating of 'A 'or equivalent d) and a CRAR of 15%.
- **5.** Systemically Important Core Investment Company (CIC-ND-SI): It is an NBFC carrying on the business of acquisition of shares and securities.
- **6. Infrastructure Debt Fund**: Non- Banking Financial Company (IDF-NBFC) : IDF-NBFC is a company registered as NBFC to facilitate the flow of long term debt into infrastructure projects. IDF-NBFC raise resources through issue of Rupee or Dollar denominated bonds of minimum 5-year maturity. Only Infrastructure Finance Companies (IFC) can sponsor IDF-NBFCs.
- **7. Non-Banking Financial Company** Micro Finance Institution (NBFC-MFI): NBFC-MFI is a nondeposit taking NBFC having not less than 85% of its assets in the nature of qualifying assets which satisfy the following criteria:
- a) loan disbursed by an NBFC-MFI to a borrower with a rural household annual income not exceeding ₹ 1,00,000 or urban and semi-urban household income not exceeding ₹ 1,60,000;
- b) loan amount does not exceed ₹ 50,000 in the first cycle and ₹ 1,00,000 in subsequent cycles;
- c) total indebtedness of the borrower does not exceed ₹ 1,00,000;
- d) tenure of the loan not to be less than 24 months for loan amount in excess of ₹ 15,000 with prepayment without penalty;
- e) loan to be extended without collateral;
- f) aggregate amount of loans, given for income generation, is not less than 50 per cent of the total loans given by the MFIs;



- g) loan is repayable on weekly, fortnightly or monthly instalments at the choice of the borrower.
- **8.** Non-Banking Financial Company Factors (NBFC-Factors): NBFC-Factor is a non-deposit taking NBFC engaged in the principal business of factoring. The financial assets in the factoring business should constitute at least 50 percent of its total assets and its income derived from factoring business should not be less than 50 percent of its gross income.
- **9. Mortgage Guarantee Companies (MGC)** MGC are financial institutions for which at least 90% of the business turnover is mortgage guarantee business or at least 90% of the gross income is from mortgage guarantee business and net owned fund is ₹ 100 crore.
- **10. NBFC- Non-Operative Financial Holding Company (NOFHC)** is financial institution through which promoter / promoter groups will be permitted to set up a new bank. It's a wholly-owned Non-Operative Financial Holding Company (NOFHC) which will hold the bank as well as all other financial services companies regulated by RBI or other financial sector regulators, to the extent permissible under the applicable regulatory prescriptions.

G-SECs

- A Government Security (G-Sec) is a **tradeable instrument issued by the Central Government or the State Governments**. It acknowledges the Government's debt obligation.
- Such securities are **short term** (usually called treasury bills, with original maturities of less than one year) or **long term** (usually called Government bonds or dated securities with original maturity of one year or more).
- In India, the **Central Government issues both, treasury bills and bonds or dated securities** while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).
- G-Secs carry practically no risk of default and, hence, are called **risk-free gilt-edged instruments.**

Treasury Bills (T-bills)

- Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 day, 182 day and 364 day.
- Treasury bills are zero coupon securities and pay no interest. Instead, they are issued at a discount and redeemed at the face value at maturity. For example, a 91 day Treasury bill of ₹100/- (face value) may be issued at say ₹ 98.20, that is, at a discount of say, ₹1.80 and would be redeemed at the face value of ₹100/-. The return to the investors is the difference between the maturity value or the face value (that is ₹100) and the issue price (for calculation of yield on Treasury Bills please see answer to question no. 26).

Cash Management Bills (CMBs)

• In 2010, Government of India, in consultation with RBI introduced a new short-term instrument, known as Cash Management Bills (CMBs), to meet the temporary mismatches in the cash flow of the Government of India. The CMBs have the **generic character of T-bills but are issued for maturities less than 91 days**.

Dated G-Secs

• Dated G-Secs are securities which **carry a fixed or floating coupon (interest rate)** which is paid on the face value, on half-yearly basis. Generally, the tenor of dated securities ranges from **5 years to 40** years.

Why are G-Secs called gilts?

- Gilts is the name given to bonds issued by the U.K. government through the **Bank of England.** They are called gilts because the original certificates issued by the British Government had gilded edges.
- $\circ~$ The term is used in the U.K. and other countries such as India and South Africa.
- The **first gilt issuance was in 1694 to King William III** who needed to borrow 1.2 million pounds to fund a war against France.



The risk of G-Secs.

- **Credit Risk:** None. When a company issues a bond, it makes a legal commitment to pay interest on the principal and to return the principal. But what if the company runs into a cash-flow problem or stars incurring massive losses and cannot return your money. That is a credit risk. There is no question of the government defaulting on the repayment. G-Secs have a sovereign guarantee as the central and state governments issues these securities.
- Liquidity Risk: Low. A vibrant secondary market exists for trading such instruments.
- **Interest Rate Risk:** High. This is what makes the funds extremely volatile and can even give negative returns during shorter holding periods. Higher the duration of the fund/bond, greater the interest rate risk.





SOCIETY

(Social Issues and Social Justice)

4 RIGHT TO EDUCATION

- The **Right to Education Act 2009, also known as the RTE Act 2009**, was enacted by the Parliament of India on 4 August 2009.
- It describes modalities of the importance of free and compulsory education for children aged between 6-14 years in India under Article 21 (A) of the Constitution of India.
- This act came into effect on 1 April 2010 and made India one of the 135 countries to have made education a fundamental right for every child.
- It **prescribes minimum norms** for elementary schools, prohibits unrecognised schools from practice and advocates against donation fees and interviews of children at the time of admission. The Right to Education Act keeps a check on all neighbourhoods through regular surveys and identifies children who are eligible for receiving education but do not have the means to.
- Educational challenges have been prevalent at both the centre and states for many years in India. The Right to Education Act 2009 maps out roles and responsibilities for the centre, state and all local bodies to rectify gaps in their education system in order to enhance the quality of education in the country.

♦ THINGS TO KNOW ABOUT RTE

1. Compulsory and free education for all

- It is obligatory for the Government to provide free and compulsory elementary education to each and every child, in a neighbourhood school within 1 km, up to class 8 in India.
- No child is liable to pay fees or any other charges that may prevent him or her from pursuing and completing elementary education.
- Free education also includes the provisions of textbooks, uniforms, stationery items and special educational material for children with disabilities in order to reduce the burden of school expenses.

2. The benchmark mandate

- The Right to Education Act lays down norms and standards relating to **Pupil-Teacher-Ratios** (number of children per teacher), classrooms, separate toilets for girls and boys, drinking water facility, number of school-working days, working hours of teachers, etc.
- Each and every elementary school (Primary school + Middle School) in India has to comply with these set of norms to maintain a minimum standard set by the Right to Education Act.

3. Special provisions for special cases

The Right to Education Act mandates that an out of school child should be admitted to an age appropriate class and provided with special training to enable the child to come up to age appropriate learning level.

4. Quantity and quality of teachers

- The Right to Education Act provides for rational deployment of teachers by ensuring that the **specified Pupil-Teacher-Ratio** is maintained in every school with no urban-rural imbalance whatsoever.
- It also mandates appointing appropriately trained teachers i.e. teachers with the requisite entry and academic qualifications.

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The Right to Education Act 2009 prohibits all kinds of physical punishment and mental harassment, discrimination based on gender, caste, class and religion, screening procedures for admission of children capitation fee, private tuition centres, and functioning of unrecognised schools.

6. Ensuring all round development of children

- The Right to Education Act 2009 provides for development of curriculum, which would ensure the all-round development of every child.
- $\circ~$ Build a child's knowledge, human potential and talent.

7. Improving learning outcomes to minimise detention

5. Zero tolerance against discrimination and harassment

- The Right to Education Act mandates that no child can be held back or expelled from school till Class 8.
- To improve performances of children in schools, the Right to Education Act introduced the Continuous Comprehensive Evaluation (CCE) system in 2009 to ensure grade appropriate learning outcomes in schools.
- Another reason why this system was initiated was to evaluate every aspect of the child during their time in school so that gaps could be identified and worked on well in time.

8. Monitoring compliance of RTE norms

- School Management Committees (SMCs) play a crucial role in strengthening participatory democracy and governance in elementary education.
- All schools covered under the Right to Education Act 2009 are obligated to constitute a **School Management Committee** comprising of a head teacher, local elected representative, parents, community members etc.
- $\circ\,$ The committees have been empowered to monitor the functioning of schools and to prepare school development plan.

9. Right to Education Act is justiciable

The Right to Education Act is justiciable and is backed by a Grievance Redressal (GR) mechanism that allows people to take action against non-compliance of provisions of the Right to Education Act 2009.

10. Creating inclusive spaces for all

- The Right to Education Act 2009 mandates for all private schools to reserve 25 per cent of their seats for children belonging to socially disadvantaged and economically weaker sections.
- This provision of the Act is aimed at boosting social inclusion to provide for a more just and equal nation.

4 EDUCATION TO GIRLS

- Girls' education goes beyond getting girls into school.
- It is also about ensuring that girls learn and feel safe while in school; have the opportunity to complete all levels of education acquiring the knowledge and skills to compete in the labor market; learn the socioemotional and life skills necessary to navigate and adapt to a changing world; make decisions about their own lives; and contribute to their communities and the world.
- Girls' education is a strategic development priority. Better educated women tend to be more informed about nutrition and healthcare, have fewer children, marry at a later age, and their children are usually healthier, should they choose to become mothers.
- They are more likely to participate in the formal labor market and earn higher incomes. All these factors combined can help lift households, communities, and countries out of poverty.



There are multiple barriers to girls' access to and completion of education:

1. Poverty is one of the most important factors for determining whether a girl can access and complete her education. Poor households lack resources to pay for schooling and associated costs (e.g., for textbooks, uniforms, school supplies, and transportation).

Poor households with multiple children may choose to invest in boys' education rather than that of girls while also relying on girls to help with household chores and care for younger siblings and other family members.

Studies consistently show that girls who face multiple disadvantages - such as low family income, living in remote or underserved locations or who have a disability or belong to a minority ethno-linguistic group - are farthest behind in terms of access to and completion of education.

2. Violence also prevents girls from accessing and completing education – often girls are forced to walk long distances to school placing them at an increased risk of gender-based violence (GBV) including sexual exploitation and abuse and sexual harassment (SEA/SH) and many experience violence while at school.

In addition to having serious consequences for their mental and physical health and overall well-being - this leads to lower attendance and higher dropout rates among them.

Adolescent pregnancies can be a result of sexual violence or sexual exploitation. Girls who become pregnant often face significant stigma, and even discrimination, from their communities. The burden of stigma, compounded by unequal gender norms, can lead girls to drop out of school early and not return.

- **3.** Child marriage is also a critical challenge. Girls who marry young are much more likely to drop out of school, complete fewer years of education than their peers who marry later.
- **4.** They are also more likely to have children at a young age and are exposed to higher levels of violence perpetrated by their partner.

In turn, this affects the education and health of their children, as well as their ability to earn a living. Indeed, girls with secondary schooling are up to six times less likely to marry as those children with little or no education.

5. Lack of schools, inadequate infrastructure and unsafe environments: In addition to an insufficient number of schools to meet education demand (particularly in rural areas) – many schools lack water, sanitation and hygiene (WASH) facilities including separate toilets for boys and girls and a water source.

Further, many schools lack **basic features to promote a safe and inclusive environment** – for example, they lack perimeter fences, well-lit pathways and do not use universal design. The lack of an adequate environment can act as an important barrier to girls' regular attendance in school.

6. Limitations in teacher training and teaching and learning materials which reinforce gender biases: In many settings, curricula and teaching pedagogy is not sensitive to the specific needs of girls.

Further, teachers may not have had sufficient training or support in reducing gender biases in the classroom. They may not be trained or feel comfortable in responding to GBV and other issues girls may face in school. Additionally, teaching and learning materials and curricula may reinforce negative stereotypes about girls and women.

Impact of COVID-19

- COVID-19 is negatively impacting girls' health and well-being and in addition to facing loss of learning as a result of prolonged school closures and limited access to remote learning opportunities many are at risk of not returning to schools once they reopen.
- Research shows that the incidence of violence against girls and women has increased during COVID-19, jeopardizing their health, safety and overall well-being
- There is likely to be an increase in drop-out rates and a large portion of girls who will not return to school. Girls who are pregnant may, in some instances, be discouraged from returning to school and/or face stigma which drives them to either drop out or to not return to school.
- Many girls' responsibilities in terms of household work and caregiving are likely to have increased during the school closures reducing the time available for studying.



• Indeed, research shows that when primary caregivers are missing from the household (which may often be the case during the pandemic/as a result of COVID-19), girls are often given additional responsibilities in terms of caregiving and household tasks – further reducing the time available for studying and reducing their overall engagement in schooling.

4 NIPUN BHARAT MISSION

Pratham's Annual Status of Education Report (ASER) found that less than 30% of Class 3 students could read at Class 2 level or do double digit subtraction. Operationalising a changed mindset would require changes in curriculum, teacher training, assessment, and messaging to parents, such as holistic report cards.

- The Centre's new mission to ensure that every Class 3 child has foundational literacy and numeracy within five years is rolled out.
- Although the National Education Policy had included a 2025 deadline to achieve the goal, the Centre has pushed back the target date to 2026-27, given that COVID-19 has already disrupted two academic years.
- The School Education Department says no additional funding is being allocated for the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat). Instead, money is being allocated from the flagship Samagra Shiksha scheme, which actually saw a 20% drop in its budget this year.
- Samagra Shiksha is an umbrella scheme, and this year it has been revised. According to that revision, a provision has been kept for FLN (foundational literacy and numeracy).
- The **vision of NIPUN Bharat Mission** is to create an enabling environment to ensure universal acquisition of foundational literacy and numeracy, so that every child achieves the desired learning competencies in reading, writing and numeracy by the end of Grade 3, by 2026-27.
- A **five-tier implementation mechanism will be set up** at the national, State, district, block and school levels. NIPUN Bharat is likely to emphasise goal setting and accountability for State governments, and provide guidelines for teacher training, assessment and the creation of printed resources, according to people who helped develop the mission.
- **Central Square Foundation**, a non-governmental organisation with a focus on foundational literacy and numeracy, has provided inputs and technical support to the Centre in the development of this mission.
- One of the critical elements of NIPUN Bharat would be to guide States in how this money is to be used.
- This mission specifies stage-wise learning goals to ensure that students are acquiring the necessary building blocks.

Given the COVID-19 school closures, there would be a need to ensure that when schools are reopened, there is a focus on school readiness activities for younger classes, rather than going straight to a traditional curriculum.

4 ACADEMIC BANK OF CREDIT (ABC)

The Prime Minister launched an Academic Bank of Credit (ABC) which will allow students to enter or exit a course whenever they wish and rejoin education from where they have left.

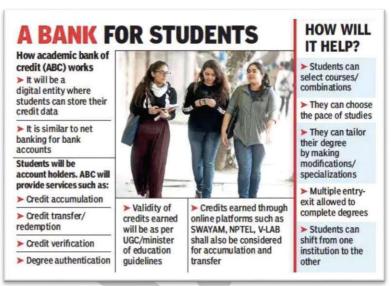
- The student-friendly **National Education Policy (NEP) 2020** has introduced contemporary concepts to improve the quality of education in India. It is **focused on individual development by providing flexibility in the course structure**.
- The academic bank of credit (ABC) proposed in NEP 2020 will offer flexibility to students and executives to promote **liberal education**, according to draft rules prepared by the University Grants Commission (UGC).
- The academic bank of credit, which will be rolled out in a staggered manner from the 2021-22 academic year, will function much like a commercial bank. The students will be account-holders to whom the bank will provide **credit accumulation**, **credit transfer**, **credit redemption services**. These credits can



be deposited to student accounts. After the accumulation of credits, a student can redeem these in order to get any academic degree.

Academic Bank of Credit (ABC) scheme: All you need to know

- **1.** It aims to **promote student centricity** in higher education with learner-friendly approaches across the country and promote a more inter-disciplinary approach in higher education.
- It will enable students to choose the best courses/combination of courses to suit their interest.
- **3.** It will enable students to select the best **departments or institutions or their combination** to suit their interest



- 4. It will allow students to choose a pace for their studies along with the associated cost.
- **5.** It will allow students to make **specific modifications/specialisations to their degree programmes** rather than undergoing the regularly prescribed degree/courses.
- **6.** It enables **multiple entry-multiple exit scheme** for students to complete their degrees as per their time preferences,
- 7. It provides mobility across various disciplines like Degree, Diploma, PG Diploma, Certificate programmes.
- 8. It facilitates lifelong learning amongst students in full time and part-time modes.
- **9.** It will maintain **academic records and issue an official transcript**. This transcript will be recognised by all the member-universities of ABC.
- **10.** If students are working towards a qualification, they will have to accumulate sufficient credits to gain the total credit value of the qualification. Students may be able to **transfer their credits as part of one study programme to another**, offered by the same institution.

INTEGRATED CHILD DEVELOPMENT SERVICES (ICDS)

- Paediatric malnutrition has always been a matter of national concern. The various vertical health programmes initiated by the Government of India (GOI) from time to time did not reach out to the target community adequately.
- In **1974**, **India adopted a well-defined national policy** for children. In pursuance of this policy it was decided to start a holistic multicentric programme with a compact package of services. The decision led to the formulation of Integrated Child Development Services (ICDS) scheme.
- Integrated Child Development Services (ICDS) scheme is **world's largest community based programme**. The scheme is targeted at children upto the age of 6 years, pregnant and lactating mothers and women 16–44 years of age. The scheme is aimed to improve the health, nutrition and education (KAP) of the target community.

Objectives: the main objectives of the scheme are

- Improvement in the health and nutritional status of children o-6 years and pregnant and lactating mothers.
- Reduction in the incidence of their mortality and school drop out
- o Provision of a firm foundation for proper psychological, physical and social development of the child.



- Enhancement of the maternal education and capacity to look after her own health and nutrition and that of her family
- Effective co-ordination of the policy and implementation among various departments and programmes aimed to promote child development.

Beneficiaries: The beneficiaries are:

- Children o−6 years of age
- Pregnant and lactating mothers
- Women 15-44 year of age
- Since 1991 adolescent girls upto the age of 18 years for non-formal education and training on health and nutrition.

Services: The programme provides a package of services facilities like:

- **1.** Complementary nutrition
- 2. Vitamin A
- 3. Iron and folic acid tablets
- 4. Immunization
- **5.** Health check up
- 6. Treatment of minor ailments
- 7. Referral services
- 8. Non-formal education on health and nutrition to women
- 9. Preschool education to children 3-6 year old and
- **10.** Convergence of other supportive services like water, sanitation etc.
- The services arc extended to the target community at a focal point '**Anganwadi'** (AWC) located within an easy and convenient reach of the community.
- AWC is managed by an **honorary female worker 'Anganwadi Worker'(AWW)** who is the key community level functionary. She is a specially selected and trained woman from the local community, educated upto high school. She undergoes 3 months training in child development, immunization, personal hygiene, environmental sanitation, breastfeeding, ante-natal care, treatment of minor ailments and recognition of 'at risk' children. She gets a small honorarium as an incentive.
- The presence of AWW in the community has a synergistic effect as she liaises between health functionaries and the community.
- Convergence with health helps achieve better maternal and child health, enhances awareness regarding family planning services, treatment of morbidity and reduction of mortality.
- AWC serves as a **central point for immunisation**, distribution of vitamin A, iron and folic acid tablets and treatment of minor ailments and first aid.
- AWC is also the venue for health related activities carried out by auxiliary nurse-midwives (ANM).
- Each AWC looks after a population of approximately 1000 in rural and urban areas and 700 in tribal areas.

4 POSHAN ABHIYAAN

- POSHAN Abhiyaan is a **multi-ministerial convergence mission** with the vision to ensure attainment of **malnutrition free India by 2022**.
- The **objective of POSHAN Abhiyaan to reduce stunting in identified Districts** of India with the highest malnutrition burden by improving utilization of key Anganwadi Services and improving the quality of Anganwadi Services delivery. Its aim to ensure holistic development and adequate nutrition for pregnant women, mothers and children.
- The Ministry of Women and Child Development (MWCD) is implementing POSHAN Abhiyaan in 315 Districts in first year, 235 Districts in second year and remaining districts will be covered in the third year.



- POSHAN Abhiyaan was launched in Jhunjhunu, Rajasthan in March 2018.
- It targets to reduce level of under-nutrition and other related problems by ensuring convergence of various nutrition related schemes.
- It also targets stunting, under-nutrition, anaemia (among young children, women and adolescent girls) and low birth rate.
- It will monitor and review implementation of all such schemes and utilize existing structural arrangements of line ministries wherever available.



- Its large component involves gradual scaling-up of interventions supported by on-going World Bank assisted Integrated Child Development Services (ICDS) Systems Strengthening and Nutrition Improvement Project (ISSNIP) to all districts in the country by 2022.
- The POSHAN Abhiyaan, as an apex body, will monitor, supervise, fix targets and guide the nutrition related interventions across the Ministries.
- \circ The proposal consists of
- mapping of various Schemes contributing towards addressing malnutrition
- introducing a very robust convergence mechanism
- ICT based Real Time Monitoring system
- incentivizing States/UTs for meeting the targets
- incentivizing Anganwadi Workers (AWWs) for using IT based tools
- eliminating registers used by AWWs
- introducing measurement of height of children at the Anganwadi Centres (AWCs)
- Social Audits
- Setting-up Nutrition Resource Centres, involving masses through Jan Andolan for their participation on nutrition through various activities, among others.

Key nutrition strategies and interventions:

- IYCF (Infant and Young child feeding),
- Food and Nutrition,
- Immunization,
- Institutional Delivery,
- WASH (Water, Sanitation and Hygiene),
- De-worming,
- ORS-Zinc,
- Food Fortification,
- Dietary Diversification,
- Adolescent Nutrition,
- Maternal Health and Nutrition,
- ECD (Early childhood development)/ECCE (Early Childhood care and Education),
- Convergence,
- ICT-RTM (Information and Communication. Technology enabled Real Time Monitoring) and
- Capacity Building etc.



4 ANTI-TRAFFICKING BILL

- Recently the Ministry of Women and Child Development released Draft anti-trafficking Bill, the Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021.
- A previous draft had been introduced in 2018 but that could not be introduced in Rajya Sabha amid stiff opposition from Parliamentarians and experts.
- Article 23 (1) in the constitution of India prohibits trafficking in human beings and forced labour.

What the bill says?

- According to the draft bill, the **law will apply to all citizens of India, within and outside the country**, persons on any ship or aircraft registered in India wherever it may be or carrying Indian citizens wherever they may be, and a foreign national or a stateless person who has residence in India.
- It also says the law "shall apply to every offence of trafficking in persons with cross-border implications".
- The draft bill also **widens the definition of the "victim"** by including transgenders, besides women and children.
- Once the bill becomes an Act, the central government will notify and set up a **National Anti-Trafficking Committee**, while state governments will set up these committees at state and district levels to ensure effective implementation.
- The bill proposes that **any offence of trafficking** "shall be punished with rigorous imprisonment for a term which shall not be less than seven years but which may extend to ten years and shall also be liable to fine which shall not be less than one lakh rupees".
- In addition, similar to the 2018 version, the new draft proposes more severe penalties for "aggravated offences" and seeks to crack down on organised crime syndicates.
- Aggravated offences include cases that may result in the death of the victim or where the victim suffers grievous injury (in cases such as acid attack), organ mutilation or removal of organs, or where the victim is a child.
- Whoever commits the offence of aggravated form of trafficking of a person shall be punishable with rigorous imprisonment for a term for ten years but which may extend to imprisonment for life and shall also be liable to fine which may extend to ten lakh rupees.
- In case of the death of the victim, the bill proposes life imprisonment along with a fine of Rs 30 lakh.
- \circ The bill also proposes imprisonment upto 20 years and death penalty for the offenders found guilty.
- The bill also says the **investigation needs to be completed within 90 days** from the date of the arrest of the accused.
- The bill widens the range of offenders who can be booked under the law, bringing public servants, armed forces personnel or anyone in a position of authority under its ambit.

4 AYUSH MISSION

- Department of AYUSH, Ministry of Health and Family Welfare, Government of India has launched National AYUSH Mission (NAM) during 12th Plan for im-plementing through States/UTs.
- The **basic objective of NAM is to promote AYUSH medical systems** through cost effective AYUSH services, strengthening of educational systems, facilitate the enforcement of quality control of Ayurveda, Siddha and Unani & Homoeopathy (ASU &H) drugs and sustainable availability of ASU & H raw-materials.
- It **envisages flexibility of implementation of the programmes** which will lead to substantial participation of the State Governments/UT.
- The NAM contemplates establishment of a National Mission as well as corresponding Missions in the State level. NAM is likely to improve significantly the Department's outreach in terms of planning, supervision and monitoring of the schemes.



Vision

- **1.** To provide cost effective and equitable AYUSH health care throughout the country by improving access to the services.
- **2.** To revitalize and strengthen the AYUSH systems making them as prominent medical streams in addressing the health care of the society.
- **3.** To improve educational institutions capable of imparting quality AYUSH education
- **4.** To promote the adoption of Quality standards of AYUSH drugs and making available the sustained supply of AYUSH raw-materials.

Objectives

1. To provide **cost effective AYUSH Services**, with a universal access through upgrading AYUSH Hospitals and Dispensaries, co-location of AYUSH

facilities at Primary Health Centres (PHCs), Community Health Centres (CHCs) and District Hospitals (DHs).

- **2.** To **strengthen institutional capacity** at the state level through upgrading AYUSH educational institutions, State Govt. ASU&H Pharmacies, Drug Testing Laboratories and ASU & H enforcement mechanism.
- **3. Support cultivation of medicinal plants** by adopting Good Agricultural Practices (GAPs) so as to provide sustained supply of quality raw-materials and support certification mechanism for quality standards, Good Agricultural/Collection/Storage Practices.
- **4. Support setting up of clusters** through convergence of cultivation, warehousing, value addition and marketing and development of infrastructure for entrepreneurs.

4 MID-DAY MEAL

- **Mid-day meal (MDM) is a wholesome freshly-cooked lunch** served to children in government and government-aided schools in India.
- On 28 November 2001, the Supreme Court of India passed a mandate stating, "We direct the State Governments/Union Territories to implement the Mid-Day Meal Scheme by providing every child in every Government and Government assisted Primary School with a prepared midday meal."

Objectives

- avoid classroom hunger
- o increase school enrolment
- o increase school attendance
- o improve socialisation among castes
- \circ address malnutrition
- o empower women through employment

History

• Mid-Day Meal in schools has had a long history in India. In 1925, a **Mid-Day Meal Program**me was introduced for disadvantaged children in Madras Municipal Corporation.





- By the mid 1980s three States viz. Gujarat, Kerala and Tamil Nadu and the UT of Pondicherry had universalized a cooked Mid-Day Meal Programme with their own resources for children studying at the primary stage.
- By 1990-91 the number of States implementing the mid-day meal programme with their own resources on a universal or a large scale had increased to twelve states.
- The National Programme of Nutritional Support to Primary Education (NP-NSPE) was launched as a Centrally Sponsored Scheme on 15th August 1995. By the year 1997-98 the NP-NSPE was introduced in all blocks of the country. It was further extended in 2002 to cover not only children in classes I -V of Government, Government aided and local body schools, but also children studying in Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) centres.
- $\circ~$ In September 2004, the scheme was revised to provide cooked mid-day meal with 300 calories and 8-12 grams of protein to all children studying in classes I V in Government and aided schools and EGS/ AIE centres.
- In October 2007, the scheme has been further revised to cover children in upper primary (classes VI to VIII), initially in 3479 Educationally Backwards Blocks (EBBs). Around 1.7 crore upper primary children were included by this expansion of the scheme.
- **From 2008-09** i.e w.e.f 1st April, 2008, the programme covers all children studying in Government, Local Body and Government-aided primary and upper primary schools and the EGS/AIE centres including Madarsa and Maqtabs supported under Sarva Siksha Abhiyaan (SSA) of all areas across the country.
- From the year 2009 onwards the following changes have been made to improve the implementation of the scheme:-

Food norms have been revised to ensure balanced and nutritious diet to children of upper primary group by increasing the quantity of pulses from 25 to 30 grams, vegetables from 65 to 75 grams and by decreasing the quantity of oil and fat from 10 grams to 7.5 grams

Meal provision

- The scheme guidelines envisage to provide cooked mid-day meal with 450 calories and 12 g of protein to every child at primary level and 700 calories and 20 g of protein at upper primary level.
- This energy and protein requirement for a primary child comes from cooking 100 g of rice/flour, 20 g pulses and 50 g vegetables and 5 g oil, and for an upper primary child it comes from 150 g of rice/flour, 30 g of pulses and 75 g of vegetables and 7.5 g of oil.

The present provisions are as given below:-

- Free supply of food grains @ 100 grams per child per school day at Primary and @ 150 grams per child per school day at Upper Primary.
- **Subsidy for transportation of food grains** is provided to 11 special category states at PDS rate prevalent in these states and up to a maximum of Rs.75.00 per quintal for other than special categories States/UTs
- In addition to foodgrains, a mid-day meal involves major input, viz. cost of cooking, which is explained below. Cost of cooking includes cost of ingredients, e.g. pulses, vegetables, cooking oil and condiments. In order to cover the impact of price rise in the items of consumption in the MDM basket, the cooking cost has been revised upward annually since 2010.

Focus on community Participation

- The intention is to empower mothers of the children covered under the programme to supervise the preparation and serving of the meal and to exercise an effective vigil.
- Mothers are encouraged to take turns to oversee the feeding of the children, thus ensuring quality and regularity of the meal. For this, they need to devote only a couple of hours once or twice in a month. This simple intervention of 'mothers watch', gives them a voice and a role and greater ownership of the programme.



Effective mobilization of mothers would include :

- Preference to women in engagement of cooks cum helpers
- o Orienting mothers towards their role in supervision of the preparation and cooking of meal.
- Bringing home to them the fact that their involvement, as the prime stake-holder, would substantially improve the regularity and quality of the meal.
- o Sensitizing mothers to the critical aspects of the programme required to be supervised by them.
- $\circ~$ Formalisation of ways of maintaining rosters to enable mothers to take turns on specified days of the year and participate effectively.
- Getting their suggestions on strengthening the programme strategies, to enhance community involvement, value addition to meals, etc.

4 OXFAM REPORT ON HEALTH

Sharp inequalities exist across different caste, religious, class and gender categories on various health indicators, according to a report by Oxfam India.

 The report titled "India Inequality Report 2021: India's Unequal Healthcare Story" shows that the "general category is better off than the SCs and STs, Hindus are better off than Muslims, the rich are better off than the poor, men are better off than women, and



the urban population is better off than the rural population" on most health determinants, interventions and indicators. The findings are primarily based on secondary analysis from rounds 3 and 4 of the National Family Health Survey and various rounds of National Sample Survey.

- The report shows that while **women's literacy** has improved across social groups over the years, SC and ST women lag behind the general category by 18.6% and 27.9%, respectively. There exists a gap of 55.1% between the top and bottom 20% of the population in 2015-16. Though the female literacy rate among Muslims (64.3%) is lower than all religious groups, inequality has reduced over time.
- As far as **sanitation** is concerned, 65.7% households have access to improved, non-shared sanitation facilities in the general category while SC households are 28.5% behind them and ST are 39.8% behind them. While 93.4% of households in the top 20% have access to improved sanitation, only 6% have access in the bottom 20% a difference of 87.4%.

An examination of health interventions too shows disparities.

- The share of **institutional deliv**eries in India has increased from 38.7% in 2005-06 to 78.9% in 2015-16, but inequalities persist with ST households 15% below the general category, Muslims 12% behind Hindus and a 35% gap between the poorest and richest 20% of the population.
- Similarly, immunisation in ST households at 55.8% is still 6.2% below the national average, and Muslims have the lowest rate across all socio-religious groups at 55.4%.
- Life expectancy based on wealth is 65.1 years for the bottom 20% of the households, while it is 72.7 years for the top 20%. Similarly, on an average, an upper caste woman lives 15 years longer than a Dalit woman.



SECURITY

(Internal and External)

4 AGNI-P MISSILE

- India successfully test-fired Agni-P, also known as Agni Prime, the next generation nuclearcapable ballistic missile in India's nuclear arsenal, from Odisha's Balasore.
- The missile comes with its own unique technology giving it more accuracy while making it difficult to intercept.
- With a range of 1,000-2,000 kilometers, the deadly missile is capable of covering vital targets all across Pakistan.

Lighter and more agile

• The Agni P, initially named **Agni-1P**, is said to weigh 50 per cent less than Agni 3 and is the **lightest and smallest of the Agni series** because of technological advancements.



- $\circ\,$ The missile comes with new composites, propulsion systems, innovative guidance and control mechanisms, besides the latest navigation systems.
- Adding to the usefulness of the missile is that it is a **canisterised system**. This means that the movement and launch options increase for the Strategic Forces Command, which oversees India's nuclear arsenal.
- The missile **can be launched from rail or road** and can be transported to various parts of the country.
- The **two-stage and solid-fuelled weapon system** comes with new propulsion systems, composite motor casings, and inertial navigation systems based on advanced ring-laser gyroscopes. Gyroscopes show the location of the missile and the trajectory it is taking.
- The **ring-laser gyroscopes** are more accurate.
- The missile can even be manoeuvred at one point if need be. This feature, which is usually not available in a ballistic missile, makes it more difficult to intercept.

Agni P as a counterforce weapon.

- **Counterforce doctrine**, in nuclear strategy, is the targeting of an opponent's nuclear weapons infrastructure with a nuclear strike. The counterforce doctrine is differentiated from the **countervalue doctrine**, which targets the enemy's cities, destroying its civilian population and economic base.
- However, government insisted that India has a strong 'No first use' (NFU) policy. They added that nuclear weapons are for deterrence,

MPATGM

The Defence Research and Development Organisation (DRDO) successfully flight-tested an indigenously developed low weight man-portable anti-tank guided missile, paving way for its production for the Army.

- The defence ministry described the successful trial of the missile as a major boost for the government's 'Aatmanirbhar Bharat' (self-reliant India) campaign.
- The missile is being developed to strengthen the **combat capabilities of the Indian Army**.



- $\circ~$ Indigenously developed low weight, fire and forget Man Portable Antitank Guided Missile
- (MPATGM) was launched from a man portable launcher integrated with thermal site and the target was mimicking a tank. The missile hit the target in direct attack mode and destroyed it with precision. The test has validated the minimum range successfully.
- The missile is incorporated with state-of-the-art Miniaturized Infrared Imaging Seeker along with advanced avionics. The test brings the development of indigenous third generation man portable Anti-Tank Guided Missile close to completion.
- The test brings the development of indigenous thirdgeneration man-portable anti-tank guided missile close to completion



4 NARCOTICS CONTROL

- India has signed 26 bilateral pacts, 15 memoranda of understanding and two agreements on security cooperation with different countries for **combating illicit trafficking of narcotic, drugs and psychotropic substances**, besides chemical precursors.
- The **Narcotics Control Bureau (NCB) coordinated with various international organisations** for sharing information and intelligence to combat transnational drug trafficking. They included the SAARC Drug Offences Monitoring Desk; Brazil, Russia, India, China and South Africa (BRICS); Colombo Plan; Association of Southeast Asian Nations (ASEAN); ASEAN Senior Officials on Drug Matters (ASOD); Bay of Bengal Initiative For Multi-Sectoral Technical and Economic Co-Operation (BIMSTEC); United Nations Office on Drugs and Crime (UNODC), and the International Narcotics Control Board (INCB).
- Sharp vigil, effective surveillance, public cooperation, source-based intelligence, sensitisation of field officials and associated measures had resulted in a gradual increase in the registration of a number of drug trafficking related cases in the country.
- For coordination among various Central and State agencies, the Narco Coordination Centre (NCORD) mechanism was set up by the MHA in year 2016 for effective drug law enforcement. This NCORD system has been restructured into a four-tier scheme up to district level on July 29, 2019, for better coordination.

Launch of e-portal 'SIMS'

- A Joint Coordination Committee with the NCB Director General as its chairman was set up on July 19, 2019, to monitor the investigation into cases involving large seizures. For digitisation of pan-India drug seizure data, the MHA has launched an e-portal called 'SIMS' (Seizure Information Management System) in 2019 for all the drug law enforcement agencies under the mandate of Narcotics Drugs and Psychotropic Substances Act (NDPS).
- Besides the Directorate of Revenue Intelligence, the Border Security Force, Sashastra Seema Bal, Indian Coast Guard, Railway Protection Force and the National Investigation Agency have also been empowered under the NDPS Act for making drug seizures.

4 SURVEILLANCE LAWS

- Communication surveillance in India takes place primarily under two laws the Telegraph Act, 1885 and the Information Technology Act, 2000.
- $\circ~$ While the Telegraph Act deals with interception of calls, the IT Act was enacted to deal with surveillance of all electronic communication.



Telegraph Act:

Under Section 5(2) of this law, the government can intercept calls only in certain situations:

- Interests of the sovereignty and integrity of India,
- Security of the state,
- Friendly relations with foreign states or public order,
- Preventing incitement to the commission of an offence.
- These are the same restrictions imposed on free speech under Article 19(2) of the Constitution.
- However, these restrictions can be imposed only when there is a condition precedent the occurrence of any public emergency, or in the interest of public safety.
- Further, the grounds of selecting a person for surveillance and extent of information gathering has to be recorded in writing.
- This lawful interception cannot take place against journalists.
- Provided that press messages intended to be published in India of correspondents accredited to the Central Government or a State Government, unless their transmission has been prohibited under this subsection.

Supreme Court Intervention: In Public Union for Civil Liberties v Union of India (1996), the SC pointed out lack of procedural safeguards in the provisions of the Telegraph Act and laid down following observations:

- Tapping is a serious invasion of an individual's privacy.
- It is no doubt correct that every Government exercises some degree of surveillance operation as a part of its intelligence outfit but at the same time citizen's right to privacy has to be protected.
- Sanction for Interception: The above mentioned Supreme Court's observations formed the basis of introducing Rule 419A in the Telegraph Rules in 2007 and later in the rules prescribed under the IT Act in 2009.
- Rule 419A states that a Secretary to the Government of India (not below the rank of a Joint Secretary) in the Ministry of Home Affairs can pass orders of interception in the case of Centre, and similar provisions exist at the state level.

IT Act, 2000:

- **Section 69 of the Information Technology Act** and the Information Technology (Procedure for Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009 were enacted to further the legal framework for electronic surveillance.
- However, the scope of Section 69 the IT Act is much broader and vague than the Telegraph Act as the only condition precedent for engaging electronic surveillance is for the "investigation of an offence".
- These provisions are problematic and offer the government total opacity in respect of its interception and monitoring activities.

Associated Issues with the Surveillance:

- **Legal Loopholes:** According to the Centre for Internet & Society, the gaps in laws allow surveillance and affect privacy. For example: Ambiguity on issues like type of interception, granularity of information that can be intercepted and the degree of assistance from service providers helps in bypassing the law and aids surveillance by the state.
- Affects Fundamental Rights: The very existence of a surveillance system impacts the right to privacy (held by the SC in K.S. Puttaswamy v. Union of India case, 2017) and the exercise of freedom of speech and personal liberty under Articles 19 and 21 of the Constitution.
- **Authoritarian Regime**: The surveillance promotes spread of authoritarianism in the government functioning since it allows the executive to exercise a disproportionate amount of power on the citizen and impacts their personal lives.
- **Threat to Freedom of Press**: Current revelations over the use of Pegasus highlights that surveillance was also conducted on many journalists. This affects freedom of press.

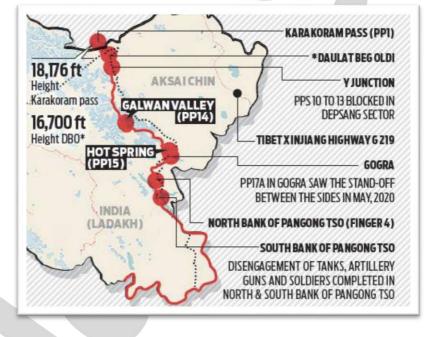
Way Forward



- There is a need for reforms in the Indian surveillance regime, which should incorporate ethics of surveillance and considers the moral aspects of how surveillance is employed.
- $\circ~$ In this context, there is a need for a holistic debate before the Personal Data Protection (PDP) Bill, 2019 is enacted.
- So that the law can be tested against the cornerstone of fundamental rights and growth of the digital economy and security of the country can be balanced.

4 GOGRA AND HOT SPRINGS

- India and China are set to hold the 12th round of Corps Commanderlevel talks aimed to resolving the standoff in Eastern Ladakh soon and an agreement for disengagement at Gogra and Hot Springs is likely to be reached.
- While disengagement has been completed on both banks of Pangong Tso, other friction points that remain to be resolved are Gogra and Hot Springs, Demchok and Depsang.



OPCW

- Organisation for the Prohibition of Chemical Weapons (OPCW), international organization established by the Chemical Weapons Convention (adopted 1992, entered into force 1997) to implement and enforce the terms of the international treaty, which prohibits the use, stockpiling, or transfer of chemical weapons by signatory states.
- The OPCW was awarded the Nobel Peace Prize in 2013.
- When the convention entered into force in 1997, the OPCW was formally established as an autonomous and independent organization working toward a world free of chemical weapons. According to the OPCW website, the Chemical Weapons Convention prohibits the "development, production, acquisition, stockpiling, retention, transfer, or use of chemical weapons" and has four key provisions:
- Destroying all existing chemical weapons under international verification by the OPCW;
- Monitoring the chemical industry to prevent new weapons from re-emerging;
- Providing assistance and protection to members of the convention against chemical threats; and
- Fostering international cooperation to strengthen implementation of the convention and promote the peaceful use of chemistry.
- Based in The Hague, Netherlands, 192 Members States have joined the OPCW, representing about 98% of the world's population, as well as 98% of the global chemical industry.
- The OPCW has an official working relationship with the United Nations to foster cooperation on matters of mutual concern.
- The OPCW's work involves a number of activities, including supporting and verifying the destruction of chemical weapons, inspecting facilities that formerly produced chemical weapons, and investigating allegations of the use of chemical weapons.



- The OPCW also plays an important role in strengthening international security by creating tools and methods for defining and detecting chemical weapon agents, as well as monitoring emerging technologies of potential concern.
- Since the creation of the OPCW more than two decades ago, approximately 96% of state-declared chemical weapon stockpiles around the world have been destroyed.



ISTORY AND CULTURE

(Ancient; Medieval and Modern)

© DECCAN SULTANATES

- The Deccan sultanates refer to five Muslim-ruled late medieval kingdoms--Bijapur, Golkonda, Ahmadnagar, Bidar, and Berar of southcentral India.
- The Deccan sultanates located on the Deccan Plateau, between the **Krishna River and the Vindhya Range**.
- They had become independent states during the breakup of the Bahmani Sultanate: Bijapur, Ahmadnagar, and Berar in 1490, Bidar in 1492, and Golkonda in 1512. In 1510, Bijapur repulsed an invasion by the Portuguese against the city of Goa, but lost it later that year.
- Although generally rivals, they allied against the Vijayanagara empire in 1565, permanently weakening Vijayanagar in the Battle of Talikota.
- $\circ\,$ In 1574, after a coup in Berar, Ahmadnagar invaded and conquered Berar.
- In 1619, Bijapur annexed Bidar.
- The Mughal Empire later conquered the sultanates, stripping Berar from Ahmadnagar in 1596, taking Ahmadnagar completely between

1616 and 1636, and Aurangzeb's 1686-1687 campaign conquered Golkonda and Bijapur.

• As in the north, they left a rich legacy of architecture, literature, and art in the southern region of India. As with the Muslims in the north, the Deccan sultanates' rich legacy of culture helped shape India today.

4AHMADNAGAR SULTANATE

- Malik Ahmed Shah Bahri, after defeating the Bahmani army led by general Jahangir Khan on May 28, 1490, declared independence and established the Nizam Shahi dynasty of Ahmadnagar or Ahmadnagar sultanate.
- The territory of the sultanate situated in the northwestern Deccan, between the sultanates of Gujarat and Bijapur.
- Initially Junnar served as his capital. In **1494**, Bahri laid the foundation for the new capital **Ahmadnagar**.
- Malik Ahmed Shah, after several attempts, secured the great fortress of Daulatabad in 1499.
- Murtaza Shah annexed Berar in 1574. Chand Bibi, as a regent of Bahadur Shah bravely repulsed an attack led by Murad in 1596.
- After the death of Chand Bibi in 1599, Ahmadnagar was conquered and Bahadur Shah imprisoned.
- But Malik Ambar and other Ahmadnagar officials defied the Mughals and declared Murtaza Shah II as sultan in 1600, at a new capital Paranda. Later, the capital shifted first to Junnar and then to a new city Khadki (later Aurangabad).





• In 1636 Aurangzeb, then Mughal viceroy of Deccan finally annexed the sultanate to the Mughal empire.

Rulers

- Malik Ahmad Shah I 1490-1510
- Burhan Shah I 1510-1553
- Hussain Shah I 1553-1565
- Murtaza Shah 1565-1588
- Miran Hussain 1588-1589
- Isma'il Shah 1589-1591
- Burhan Shah II 1591-1595
- Ibrahim Shah 1595-1596
- Ahmad Shah II 1596
- Bahadur Shah 1596-1600
- Murtaza Shah II 1600-1610
- Burhan Shah III 1610-1631
- Hussain Shah II 1631-1633
- Murtaza Shah III 1633-1636

Cultural Contributions

- The Nizam Shahi rulers of Ahmadnagar enthusiastically **patronized miniature painting**. The earliest surviving paintings took the form of illustrations of a **manuscript Tarif-i-Hussain Shahi (c. 1565**), housed in Bharata Itihasa Samshodhaka Mandala, Pune.
- The Bibliothéque Nationale of Paris displays a miniature painting of Murtaza Nizam Shah (c. 1575) while State Library, Rampur displays another one.
- Three other paintings, the **Running Elephant** in an American private collection, the **Royal Picnic** in the India Office Library, London, and the **Young Prince Embraced by a Small Girl** in the Edwin Binney 3rd collection in the San Diego Museum most probably belong to the period of Burhan Nizam Shah II.
- Among the monuments of Nizam Shahi rulers in Ahmednagar, the **tomb of Ahmad Shah I Bahri** (1509) at the center of **Bagh Rouza**, a garden complex had been the earliest one.
- The **Jami Masjid** also belong to the same period. **Mecca Masjid**, built in 1525, by Rumi Khan, a Turkish artillery officer of Burhan Nizam Shah I has originality in its design.
- The Kotla complex constructed in 1537 as a religious educational institution. The impressive **Farah Bagh** stood the centerpiece of a huge palatial complex completed in 1583.
- The other monuments in Ahmednagar of the Nizam Shahi period are **Do Boti Chira (tomb of Sharja Khan, 1562), Damri Masjid (1568),** and the **tomb of Rumi Khan (1568).**
- The Jami Masjid (1615) in Khirki (Aurangabad) and the Chini Mahal inside the Daulatabad fort had been constructed during the late Nizam Shahi period (1600–1636).
- The tomb of Malik Ambar in Khuldabad (1626) represents another impressive monument of that period. The Kali Masjid of Jalna (1578) and the tomb of Dilawar Khan (1613) in Rajgurunagar also belong to the Nizam Shahi period.

BIJAPUR SULTANATE

- The Adil Shahi dynasty ruled the Bijapur sultanate from 1490 to 1686.
- The Adil Shahis originally reined as provincial rulers of the Bahmani Sultanate. But with the breakup of the Bahmani state after 1518, Ismail Adil Shah established an independent sultanate, one of the five Deccan sultanates.



- The Bijapur sultanate, located in southwestern India, straddling the Western Ghats range of southern Maharashtra and northern Karnataka. Ismail Adil Shah and his successors embellished the capital at Bijapur with numerous monuments.
- The Adil Shahis fought the empire of Vijayanagar, which lay to the south across the Tungabhadra River, and fought the other sultanates as well.
- The sultanates combined forces to deliver a decisive defeat to Vijayanagar in 1565, after which the empire broke up. **Bijapur seized control of the Raichur Doab from Vijayanagar**.
- In **1619**, **the Adil Shahis conquered the neighboring sultanate of Bidar**, **incorporating it into their realm**. **In** the seventeenth century, the Marathas revolted successfully under Shivaji's leadership and captured major parts of the Sultanate except Bijapur.
- Aurangzeb conquered the weakened Sultanate in 1686 with the fall of Bijapur, bringing the dynasty to an end.

Rulers

- Yusuf Adil Shah 1490-1510
- Ismail Adil Shah 1510-1534
- Mallu Adil Shah 1534-1535
- Ibrahim Adil Shah I 1535-1558
- Ali Adil Shah I 1558-1580
- Ibrahim Adil Shah II 1580-1627
- Mohammed Adil Shah 1627-1656
- Ali Adil Shah II 1656-1672
- Sikandar Adil Shah 1672-1686

Cultural Contributions

- The Adil Shahi rulers contributed greatly in the fields of art, architecture, literature and music. Bijapur developed into a cosmopolitan city, attracting many scholars, artists, musicians, and Sufi saints from Rome, Iran, Iraq, Turkey, and Turkestan.
- Among the major architectural works in Bijapur sultanate, the unfinished Jami Masjid (started by Ali Adil Shah I in 1576) represents one of the earliest. With an arcaded prayer hall with fine aisles supported on massive piers, it has an impressive dome.
- The **Ibrahim Rouza**, originally planned as a tomb for queen **Taj Sultana**, but later converted into the tomb for Ibrahim Adil Shah II and his family, stands out as the most splendid monument built during the reign of Ibrahim II. That complex, completed in 1626, consists of a paired tomb and a mosque. The tomb presents an exquisite structure with delicate carvings. Ibrahim II also planned to construct a new twin city to Bijapur, Nauraspur. The construction began in 1599 but never completed.
- **Gol Gumbaz**, the mausoleum of **Muhammad Adil Shah**, stands as the greatest monument in Bijapur, completed in 1656. The diameter of the hemispherical dome measures 44 m. externally. The other important architectural works of the period include the Chini Mahal, the Jal Mandir, the Sat Manzil, the Gagan Mahal, the Anand Mahal, and the Asar Mahal (1646) in Bijapur, Kummatgi (16 km from Bijapur), the Panhala fort and Naldurg (45 km. from Solapur)
- Persian artists of Adil Shahi court have left a rare treasure of miniature paintings, some well-preserved in Europe's museums. The earliest miniature paintings ascribe to the period of reign of Ali Adil Shah I.
- The **paintings in the manuscript of Nuzum-ul-Ulum** (Stars of Science) (1570), kept in Chester Beatty Library, Dublin, stand as the most significant of them. The manuscript consists about 400 miniature paintings.
- Two other illustrated manuscripts attributed to the period of Ali Adil Shah I include Jawahir-al Musiqat-i-Muhammadi in British Library which contains 48 paintings and a Marathi commentary of Sarangadeva's Sangita-Ratnakara kept in City Palace Museum, Jaipur which contains four paintings.



- The maximum number of miniature paintings came down to us belong to the period of reign of Sultan Ibrahim Adil Shah II. Maulana Farrukh Hussain was renowned as the most celebrated painter of his court.
- The Adil Shahi rulers published many literary works in **Dakhani**. Ibrahim Adil Shah II himself wrote a book of songs, **Kitab-i-Nauras in Dakhani**. That book contains a number of songs whose tunes set to different ragas and raginis.
- In his songs, he praised Hindu goddess Sarasvati along with the Prophet and Sufi saint **Hazrat Khwaja Banda Nawaz Gesudaraz.** He had a unique tambur (lute) known as **Moti Khan** in his possession.
- $\circ~$ The famous Persian poet laureate ${\bf Zuhuri}$ served as his court poet.
- The Mushaira (poetic symposium), born in the Bijapur court, later traveled north.
- The Adil Shahi kings had been known for tolerance towards Hindus and non-interference in their religious matters. They employed Hindus to high posts, especially as the officers who deal with the accounts and the administration, since the documents pertaining to the both remained in Marathi.

4 GOLKONDA SULTANATE

- The **Qutb Shahi dynasty** stood as the ruling family of the sultanate of Golkonda in southern India. Shia Muslims, they belonged to a Turkmen tribe from the Turkmenistan-Armenia region.
- The dynasty's founder, **Sultan Quli Qutub-ul-Mulk**, migrated to Delhi with some of his relatives and friends in the beginning of the sixteenth century.
- o Later, he migrated south to Deccan and served Bahmani sultan Mohammad Shah.
- He conquered Golkonda and became the Governor of Telangana region in 1518, after the disintegration of the Bahmani sultanate into the five Deccan sultanates.
- Soon after, he declared independence from the Bahmani sultanate, took title Qutb Shah, and established Qutb Shahi dynasty of Golconda. The dynasty ruled for 171 years, until the Mughal emperor Aurangzeb's army conquered Golkonda in 1687.

Rulers

- Sultan Quli Qutb-ul-Mulk 1518-1543
- Jamsheed Quli Qutb Shah 1543-1550
- Subhan Quli Qutb Shah 1550
- Ibrahim Quli Qutub Shah 1550-1580
- Muhammad Quli Qutb Shah 1580-1611
- Sultan Muhammad Qutb Shah 1611-1626
- Abdullah Qutb Shah 1626-1672
- Abul Hasan Qutb Shah 1672-1687
- The **fortified city of Golkonda** stands out as one of the earliest architectural achievements of the Qutb Shahi dynasty. The **Jami Masjid (1518) erected by Quli-Qutb-ul-Mulk**, the tomb of Muhammad Quli Qutb Shah (1611), the tomb of Muhammad Qutb Shah (1626), and the mosque of Hayat Bakshi Begam (1666) represent the notable monuments in Golkonda.
- Muhammad Quli Qutb Shah decided to shift the capital to **Hyderabad**, 8 km east of Golkonda. Here, he constructed the most original monument in the Deccan, the **Char Minar in the heart of the new city**. That monument (completed in 1591) has four minarets of 56 meters height.
- The construction of the **Mecca Masjid**, located at the immediate south of Char Minar, started in 1617 during the reign of Muhammad Qutb Shah, finally completed construction in 1693. The other important monuments of that period include the Toli Masjid (1671) and the Jami Masjid at Gandikota.[10]



- The Qutb Shahi rulers had been great patrons of literature and invited many scholars, poets, historians and Sufi saints from Iran to settle in their sultanate. The development of **Dakhani language** embodies the most important contribution of the Golkonda sultanate in the field of literature.
- **Ibrahim Quli Qutb Shah patronized Telugu literature** also. Muhammad Quli Qutb Shah had been not only a great patron of art and literature but also a poet of high order. He wrote in Dakhani, Persian and Telugu and left an extensive Diwan (volume) in Dakhani, known as Kulliyat-i-Mohammad Quli Qutb Shah. Apart from the praise of God and the Prophet, he also wrote on nature, love, and contemporary social life.
- The Qutb Shahi rulers invited many Persian artists like Shaykh Abbasi and Muhammad Zaman into their court, which left a profound impact of different phases of Iranian art on the miniature paintings of the period.
- The earliest miniature paintings, like the 126 illustrations in the manuscript of **Anwar-i-Suhayli** (c. 1550–1560).
- First six of the total eight illustrations in the manuscript of **Kulliyat-i-Mohammad Quli Qutb Shah** (c. 1590–1600) in Salar Jung Museum, Hyderabad constitutes masterpieces.
- The five illustrations in a manuscript of the Diwan-i-Hafiz (c. 1630) in the British Museum, London belonged to the period of reign of Abdullah Qutb Shah. The Procession of Sultan Abdullah Qutb Shah riding an elephant (c. 1650) in Saltykov-Shtshedrine State Public Library, St. Petersburg, stands among the finest surviving Golkonda paintings.
- Qutb Shahi rulers appointed Hindus in important administrative posts. Ibrahim Quli Qutb Shah appointed Murari Rao as Peshwa, second to only Mir Jumla (prime minister).

4 BERAR SULTANATE

- During the disintegration of Bahmani sultanate, **Fath-ullah Imad-ul-Mulk, governor of Berar declared independence in 1490, and founded the Imad Shahi dynasty** of Berar sultanate. He established the capital at **Achalpur (Ellichpur).** He also fortified Gavilgad and Narnala.
- His successor, **Ala-ud-din**, resisted the aggression of Ahmadnagar with the help from Bahadur Shah, sultan of Gujarat. The next ruler, Darya, tried to align with Bijapur to prevent aggression of Ahamdnagar, but failed. In 1574, Tufal Khan usurped Burhan Imad Shah, the last ruler of Imad Shahi dynasty and in the same year Mutaza I, sultan of Ahmadnagar annexed it to his sultanate.
- $\circ~$ The ruined palace of Hauz Katora, 3 km. west of Achalpur constitutes the only notable surviving Imad Shahi monument

Rulers

- Fath-ullah Imad-ul-Mulk 1490–1510
- Ala-ud-din Imad Shah 1510–1530
- Darya Imad Shah 1530–1561
- Burhan Imad Shah 1562–1574
- Tufal Khan (usurper) 1574.

BIDAR SULTANATE

- **Qasim Barid**, **founder of Barid Shahi dynasty** joined the service of Bahmani ruler Mahmud Shah as a sar-naubat but later became mir-jumla of the Bahmani sultanate.
- In 1492, he declared independence and carved out Bidar sultanate. **Bidar stood as the smallest of the five Deccan sultanates.**
- The last ruler of the Bidar, sulatante Amir Barid Shah III, fell in 1619, and Bijapur Sultanate annexed the **sultanate.**

Rulers

• Qasim Barid I 1492–1504



- Amir Barid Shah I 1504–1543
- Ali Barid Shah 1542–1580
- Ibrahim Barid Shah 1580–1587
- Qasim Barid Shah II 1587–1591
- Ali Barid Shah II 1591
- Amir Barid Shah II 1591–1600
- Mirza Ali Barid Shah III 1600–1609
- Amir Barid Shah III 1609–1619
- The Barid Shahi rulers focused their **architectural activities on garden tombs**. The tomb of **Ali Barid Shah (1577) represents the most notable monument** in Bidar. The tomb consists of a lofty domed chamber, open on four sides located in the middle of a Persian four-square garden.
- The **Rangin Mahal in Bidar**, built during the reign of Ali Barid Shah constitutes a complete and exquisitely decorated courtly structure. Other important monuments in Bidar during that period include the tomb of Qasim II and Kali Masjid.
- An important class of metalwork known as Bidri originated from Bidar. Those metalworks used mainly black zinc, inlaid with designs of silver and brass and sometimes copper.





MULTIPLE CHOICE QUESTIONS

(50 MCQs)

Q1. Which of the following countries does not border Armenia?

- (a) Georgia (b) Russia
- (c) Iran (d) Turkey
- Q2. Nagorno-Karabakh is a conflict between
 - (a) Turkey and Armenia
 - (b) Russia and Georgia
 - (c) Syria and Jordan
 - (d) Armenia and Azerbaijan

Q3. Which of the following countries does not border Caspian Sea?

- (a) Iran (b) Azerbaijan
- (c) Armenia (d) Turkmenistan

Q4. Turkey does not share border with

- (a) Romania (b) Bulgaria
- (c) Greece (d) Georgia

Q5. Izmir port lies at the coast of

- (a) Sea of Azov(b) Aegean Sea(c) Black Sea(d) Sea of Marmara
- Q6. Anzali, Akatu and Lagan ports lie at the coast of
 - (a) Mediterranean Sea
 - (b) Aral Sea
 - (c) Caspian Sea
 - (d) Black Sea
- Q7. Arrange the following countries from east to west?
 - (a) Turkmenistan, Azerbaijan, Armenia, Georgia
 - (b) Azerbaijan, Armenia, Turkmenistan, Georgia
 - (c) Turkmenistan, Armenia, Azerbaijan, Georgia
 - (d) Armenia, Azerbaijan, Turkmenistan, Georgia
- Q8. Arrange the following seas from north to south?

- (a) Sea of Marmara, Black Sea, Sea of Azov, Aegean Sea
- (b) Sea of Marmara, Sea of Azov, Black Sea, Aegean Sea
- (c) Sea of Marmara, Black Sea, Aegean Sea, Sea of Azov,
- (d) Sea of Azov, Black Sea, Sea of Marmara, Aegean Sea

Q9. Pontic Mountains lie in

- (a) Turkey (b) Turkmenistan
- (c) Uzbekistan (d) Tajikistan

Q10. Dardanelles Strait separates

- (a) Sea of Marmara and Aegean Sea
- (b) Sea of Marmara and Black Sea
- (c) Sea of Azov and Black Sea
- (d) Aegean Sea and Sea of Crete
- Q11. Which of following statements is/are correct?
 - 1. ISS involves five participating space agencies from United States, Russia, Japan, Europe, and China.
 - 2. ISS serves as a microgravity and space environment research laboratory.

Choose the correct code:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q12. Negev Desert lies in

- (a) Jordan(b) Syria(c) Israel(d) Iran
- Q13. Which of following statements is/are correct?
 - 1. Article 132 deals with the ordinance making power of the President.
 - 2. Article 231 deals with the power of the Governor to legislate through ordinances.
 - Choose the correct code:
 - (a) 1 only (b) 2 only
 - (c) Both 1 and 2 (d) Neither 1 nor 2

Q14. Which of following statements is/are correct?

Shield IAS

- 1. Retired HC judges can be appointed as ad hoc judges via Article 224A of the constitution.
- 2. Ad hoc judges can be appointed for two to five years if the HC faced pendency of a large number of cases.
- Choose the correct code:
- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q15. Which of following statements is/are correct?

- 1. World Press Freedom Index is published every year since 2002 by Reporters Without Borders.
- 2. The Index ranks 180 countries and regions according to the level of freedom available to journalists.

Choose the correct code:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q16. G V K Rao Committee and L M Singhvi Committee are associated with

- (a) Conservation of Western Ghats
- (b) Police Reforms
- (c) Electoral Reforms
- (d) Panchayati Raj

Q17. Which of the following statements is/are correct?

- 1. The asset reconstruction companies or ARCs are regulated under the SARFAESI Act, 2002.
- 2. The ARCs take over a portion of the debts of the bank that qualify to be recognised as Non-Performing Assets.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q18. Which of the following statements is/are correct?

1. The components of GDP include personal consumption expenditures (C), business investments (I), government spending (G), exports (X), and imports (M).

2. GDP is equal to C + I + G + (X - M). Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q19. Nongkhyllem Wildlife Sanctuary is in

- (a) Mizoram (b) Manipur
- (c) Nagaland (d) Meghalaya
- Q20. Which of the following states has a border with Meghalaya?
 - (a) Assam (b) Manipur
 - (c) Mizoram (d) Tripura

Q21. Which of the following statements is/are correct?

- 1. Cropping Intensity = Gross Cropped Area / Net Sown Area x 100.
- 2. Cropping Intensity implies higher productivity per unit of arable land during one agricultural year.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q22. Phobos and Deimos are the moons of

(a) Jupitar	(b) Mars
(c) Saturn	(d) Neptune

Q23. Which of the following statements is/are correct?

- 1. The Gulf of Oman connects the Red Sea with the Persian Gulf.
- 2. The Gulf of Aden connects Arabian Sea with the Red Sea.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q24. Port of Nishtun lies in

- (a) India (b) Sri Lanka
- (c) Pakistan (d) Yemen

Q25. Which of the following statements is/are correct?

1. The Carlsberg Ridge divides the Arabian Sea into two major basins—the Arabian Basin to the east and the Somali Basin to the west.



		sin is separated from the Basin by the Murray				
	-	answer using the code				
	(a) 1 only(c) Both 1 and 2	(b) 2 only(d) Neither 1 nor 2				
Q26.		owing states of North- are land border with				
	-	(b) Meghalaya				
	(c) Manipur	(d) Assam				
Q27.	Chattogram Port	lies in				
	• •	(b) Bangladesh				
	(c) Sri Lanka	(d) Thailand				
028.	Latakia Port lies	in				
C		(b) Jordan				
	(c) Israel	(d) Lebanon				
029.	Syria does not share border with					
	(a) Saudi Arabia					
		(d) Turkey				
Q30.	Which of the fol	lowing cities is not in				
	Iraq?					
	(a) Irbil	(b) Idlib				
	(c) Mosul	(d) Kirkuk				
Q31.	Negev Desert lies	in in				
	(a) Namibia	(b) Chile				
	(c) Israel	(d) Algeria				
032.	The Allies of the	World War I does not				
10	include which of					
	(a) Russia	(b) France				
	(c) Germany	(d) Britain				
Q33.	Gallipoli Peninsu	lla lies in				
	(a) Italy	(b) Turkey				
	(c) Bulgaria	(d) Greece				
Q34.	Arrange the foll	owing countries from				
	East to West:					
	(a) Carbia Boar	via 9- Honzogovina				

(a) Serbia, Bosnia & Herzegovina, Montenegro, Croatia

(b)	Montenegro,	Serbia,	Bosnia	&
	Herzegovina, C			

- (c) Montenegro, Bosnia & Herzegovina, Serbia, Croatia
- (d) Serbia, Montenegro, Bosnia & Herzegovina, Croatia

Q35. Marib province lies in

(a) Syria	(b) Yemen
(c) Iraq	(d) Turkey

Q36. Which of the following is not a Balkan country?

(a) Romania	(b) Bulgaria
(c) Hungary	(d) Moldova

Q37. Tajikistan does not share land border with

- (a) Kazakhstan (b) Kyrgyzstan
- (c) Uzbekistan (d) China
- Q38. Kyrgyzstan does not share land border with
 - (a) Kazakhstan (b) Tajikistan
 - (c) Uzbekistan (d) Turkmenistan

Q39. Which of following statements is/are correct?

- 1. Doctrine of Pleasure is embodied in India in Article 310(1).
- 2. According to Article 311, 'No person who is a member of a civil service of the Union or an all-India service or a civil service of a State or holds a civil post under the Union or a State shall be dismissed or removed by an authority subordinate to that by which he was appointed'.
- Choose the correct code:
- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q40. Surinder Nath Committee and Baswan Committee are associated with

- (a) Civil Services Reform
- (b) Police Reforms
- (c) Electoral Reforms
- (d) Panchayati Raj



Q41. Ribeiro Committee and Padmanabhaiah committee are associated with

- (a) Civil Services Reform
- (b) Police Reforms
- (c) Electoral Reforms
- (d) Panchayati Raj

Q42. Which of the following statements is/are correct?

- 1. SEBI is a non-statutory body.
- 2. SEBI is under the jurisdiction of Ministry of Corporate Affairs.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q43. Which of the following statements is/are correct?

- 1. Foreign portfolio investment (FPI) refers to the purchase of securities and other financial assets by investors from another country.
- 2. FPIs include stocks, bonds, mutual funds, exchange traded funds, American depositary receipts (ADRs), and global depositary receipts (GDRs).

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q44. Which of the following is the largest cotton producing country in the world?

(a) India(b) China(c) USA(d) Brazil

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Q45. Which of the following is the largest cotton producing state in India?
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- (a) Maharashtra (b) Gujarat
- (c) Karnataka (d) Telangana

Q46. Which of the following has the highest Cotton productivity/hectare in India?

- (a) Maharashtra (b) Gujarat
- (c) Karnataka (d) Telangana

Q47. Cotton yield/hectare is highest in

(a) Australia	(b) Israel
()	()

(c) China (d) USA

Q48. Which of the following statements is/are correct?

- 1. Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines.
- 2. Antimicrobials include antibiotics, antivirals, antifungals and antiparasitics. Select the correct answer using the code given below:
- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q49. Neom is a new planned city developed in which of the following countries?

- (a) Oman
- (b) Bahrain
- (c) Qatar
- (d) Saudi Arabia

Q50. Which of the following countries has cleared sales of P-81 patrol aircraft to India?

- (a) Russia (b) USA
- (c) France (d) Israel



ANSWERS

1	2	3	4	5	6	7	8	9	10
b	d	с	a	b	с	a	d	a	a
11	12	13	14	15	16	17	18	19	20
b	С	d	с	С	d	С	С	d	a
21	22	23	24	25	26	27	28	29	30
С	b	b	d	С	с	b	a	a	b
31	32	33	34	35	36	37	38	39	40
С	с	b	d	b	с	a	d	С	a
41	42	43	44	45	46	47	48	49	50
b	d	с	а	b	С	а	С	d	b

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