

CURRENT AFFAIRS

WEEKLY

WEEK - 2 AUGUST, 2019

MAINS

HEALTH

- ⑦ Rural Healthcare

INDIA NEIGHBORHOOD

- ⑦ Kashmir Issue

POLITY

- ⑦ Governor
- ⑦ RTI Act Amendment
- ⑦ Why are parliamentary standing
- ⑦ Committees necessary?

SOCIAL ISSUES

- ⑦ Transgender Bill 2019

PRELIMS

ENVIRONMENT

- Bio Fuel ⑦

- Tiger Census ⑦

GEOGRAPHY & ENVIRONMENT

- Tesla-style giga factories ⑦
- Zero budget natural farming (ZBNF) ⑦

INTERNATIONAL RELATIONS

- India-South Korea ⑦

POLITY & GOVERNANCE

- Article 35 A ⑦
- Electronically Transmitted Postal Ballot System (ETPBS) ⑦
- Strength of Supreme Court Judges' ⑦
- Essential Medicines ⑦
- PM Awas Yojana and PRAGATI Platform ⑦

SCIENCE & TECHNOLOGY

- 3D Printed Pill ⑦
- 5G Debate ⑦
- e-Cigarette ⑦
- Facial Recognition ⑦
- Genome Sequencing ⑦
- LIGO (Laser Interferometer Gravitational-Wave Observatory) ⑦

SOCIAL ISSUES

- Kala Azar ⑦
- Protection of Children from Sexual Offences (Amendment) Bill, 2019 ⑦

MISCELLANEOUS

- Global Innovation Index (GII) 2019 ⑦

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— **Disclaimer** —

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

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

CURRENT AFFAIRS ANALYST

WEEK-2 (AUGUST, 2019)

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SECTION: A
(MAINS)

CURRENT AFFAIRS

RURAL HEALTHCARE

CONTEXT

- The government's efforts to provide better healthcare to people in rural areas seem to have resulted in improved utilization of the formal healthcare infrastructure.

◎ BACKGROUND

- In India, healthcare is divided into two segments - public and private. The public healthcare segment is responsible for maintaining the primary health requirements in rural and urban areas and is funded by the government. The private healthcare segment in India is mainly focused in urban centres.
- The healthcare market is expected to increase about three-fold by 2022 and result in 8.6 trillion. This growth is to be augmented by a surge of 20-25% in the medical tourism sector in India. The number of medical tourist arrivals in India increased to 1.07 million in 2018 from 0.98 million 2017.
- However, the rural healthcare sector still faces a plethora of challenges and needs focused policy-level interventions.
- In India, 75% of the healthcare infrastructure is concentrated in urban areas where only 27% of the total Indian population is living. The remaining 73% of the country's population is lacking proper primary healthcare facilities.

Rural Healthcare

- Rural Health Care services in India are mainly based on Primary health care, which envisages attainment of healthy status for all. Also being holistic in nature it aims to provide preventive, promote curative and rehabilitative care services.
- The health care infrastructure in rural areas has been developed as a three tier system as follows.
 - ▶ **Sub Centre:** Most peripheral contact point between Primary Health Care System & Community manned with one Health Worker (Female)/ Auxiliary Nurse Midwife (ANM) & one Health Worker (M). The Sub Centre is the most peripheral and first contact point between the primary health care system and the community
 - ▶ **Primary Health Centre (PHC):** A Referral Unit for 6 Sub Centres 4-6 bedded manned with a Medical Officer Incharge and 14 subordinate paramedical staff.
 - ▶ **Community Health Centre (CHC):** A 30 bedded Hospital/Referral Unit for 4 PHCs with Specialized services
- The situation of rural health care in India has not changed much during the past decade, though it is

difficult to gauge from it from outside. The patients are still in the hands of quacks and unscientific medical practices. The villagers have to travel a long distances to the nearest hospital in case of emergencies and their only viable transportation is private transport which many cannot afford.

Shortcomings

- Most people in rural India opt for government healthcare facilities because of monetary issues and as transport options to the urban centres are not very affordable. Despite that
 - ▶ Only 11% sub-centres, 13% Primary Health Centres (PHCs) and 16% Community Health Centres (CHCs) in rural India meet the Indian Public Health Standards (IPHS).
 - ▶ Only one allopathic doctor is available for every 10,000 people and one state run hospital is available for 90,000 people.
 - ▶ Innocent and illiterate patients or their relatives are exploited and they are allowed to know their rights.
 - ▶ Most of the centres are run by unskilled or semi-skilled paramedics and doctor in the rural setup is rarely available.
 - ▶ Patients when in emergency sent to the tertiary care hospital where they get more confused and get easily cheated by a group of health workers and middlemen.
 - ▶ Non-availability of basic drugs is a persistent problem of India's rural healthcare.
 - ▶ In many rural hospitals, the number of nurses is much less than required.

Other Constraints

• Infrastructure

- ▶ The biggest concern for the rural healthcare system is the lack adequate infrastructure.
- ▶ The existing healthcare centres in rural areas are under-financed, uses below quality equipment, are low in supply of medicines and lacks qualified and dedicated human resources.
- ▶ Underdeveloped roads, railway systems, poor power supply are some of the major disadvantages that make it difficult to set up a rural healthcare facility.

- **Doctor**

- ▶ **Patient and Nurse-Doctor Ratio** - Both these ratios contribute collectively to the inadequacy of the rural healthcare system.
- ▶ Every doctor needs a nurse to cater to their patients.
- ▶ The rural healthcare infrastructure is three-tiered and includes a sub-centre, a PHC and a CHC. PHCs are short of more than 3,000 doctors, with the shortage up by 200% over the last 10 years to 27,421 as per a report by India Spend.
- ▶ A patient is not always treated on time in rural India since the doctors are less in number.

- **Insurance**

- ▶ Insurance is something that is severely lacking in rural healthcare.
- ▶ India has one of the lowest per capita healthcare expenditures in the world.
- ▶ The government has only contributed to about 32% for the insurance in healthcare sector in India which is sufficient.

- **Affordability**

- ▶ People cannot afford the upmarket health services when they need to visit private hospitals.
- ▶ Advance technological advancements have also made healthcare costly.
- ▶ The cost of diagnostic facilities is also going up.
- ▶ Along with that, there are commissioned charges that most people don't understand.

- **Lack of Awareness**

- ▶ Awareness about proper healthcare is insufficient in India.
- ▶ Proper education on basic issues like the importance of sanitation, health, nutrition, hygiene and on healthcare policies, importance of medical services, their rights, financial support options, the need for proper waste disposal facilities.
- ▶ It is very important to inculcate a health seeking behaviour in them.

Lack of Medical Stores

- Medicines are often unavailable in rural areas.
- Supply of basic medicine is irregular in rural areas.
- The fair price shops (PPP model) are located in tertiary care and secondary care hospitals. These fair price shops charge differently in different locations.

- Discounts vary from 50% to 70% by the same provider on the same medicine.

Central Government Interventions

- Public health being a **State subject**, the primary responsibility to provide improved access to healthcare services is that of the State Governments.
- However, Central government provides financial and technical support to States and UTs to supplement their efforts for improving the healthcare services, particularly in rural areas via following initiatives –
 - ▶ Under the **National Health Mission (NHM)**, financial support is provided in the following areas: ASHAs workers, ambulances, mobile medical units (MMUs), drugs and equipments, support for Reproductive, Maternal, New-born, Child & Adolescent Health (RMNCH+A).
 - ▶ As per the budget announcement 2017-18, 1,50,000 Health Sub Centres and Primary Health Centres are to be transformed into Health and Wellness Centres (AB-HWCs) by December, 2022 to provide Comprehensive Primary Health Care (CPHC) to ensure health for all.
 - ▶ Operational Guidelines for **NHM Free Drugs Service Initiative** and **Free Diagnostics Service Initiative** have been shared with states. The objective is to ensure availability of essential drugs and necessary diagnostic services free of cost in public health facilities.
 - ▶ Bridge Programme in Community Health - for Nurses and for Ayurveda Practitioners have been finalized. The trained personnel will provide comprehensive promotive and preventive and curative healthcare services.
 - ▶ **Kayakalp** awards have been launched to promote cleanliness, hygiene and infection control practices in public health facilities. Additionally, NQAS quality certification of public hospitals is being undertaken.
 - ▶ **Pradhan Mantri Shurakshit Matritva Abhiyan** (to improve access to specialist maternal care through voluntary participation of private providers).

Ayushman Bharat

These central government initiatives over the past years to provide better healthcare to people in rural areas seem to have resulted in them tapping the formal healthcare infrastructure more.

- **Current Rural Healthcare Situation**

- ▶ Latest data on live births, infant mortality and deaths suggests more people in rural areas are visiting doctors than ever before at private and government clinics/hospitals.

- The percentage of live births where the mother got medical attention at delivery either at a government or private hospital rose from 73.1 in 2012 to 81.9 in 2017 at the all-India level.
- 47% got attention before their death in 2017, up from 34.6% in 2012.

● Best Performing States

- Nagaland fares the best with the lowest death rate and the lowest birth rate.
- The death rate in 29 states and Delhi for 2017 ranges from 3.6% in Nagaland to 7.5% in Chhattisgarh.
- Nagaland scores well on birth rates, too, sharing the fifth spot with Chandigarh at 13.5%
- The health indicators of its rural areas are good as well, with the birth rate at 14% against an all-India rural average of 21.8% and the death rate at 4.2% versus 6.9%.
- The IMR in its rural areas is 7%.

● Percentage of GDP spent on healthcare

- At 1.4% of GDP, India spends among the least on healthcare.
- The Centre aims to raise it to 2.5% by 2025.
- The National Health Policy 2017 seeks to hike states health spending to over 8%.

● Effect of better healthcare services on rural lives

- Fewer children are dying at birth not just in urban areas but also in rural regions.
- The infant mortality rate fell from 58% (infant deaths per 1,000 live births) in 2008 to 37% in 2017 in rural areas, while birth rate came down to 21.8% from 24.4% during the same period in those areas.

- Death rate declined during the decade. The rate of decline in these years has been higher in rural areas (around 14.5%) than in urban areas (10.5%).

Way Forward

- Government has recognized that if basic healthcare does not reach the rural areas, no matter how much progress is achieved in the urban and semi-urban areas, the overall growth as a nation will be retarded.
- Thus the Centre has made an outlay of Rs. 64,999 crore for health in FY20, 16% higher than the FY19 revised estimates. Of this, Rs. 33,651 crore is set aside for the government's flagship scheme, the National Health Mission. It is an umbrella plan that now counts Ayushman Bharat, the world's largest healthcare scheme, as its core plan to make medical care affordable for all.

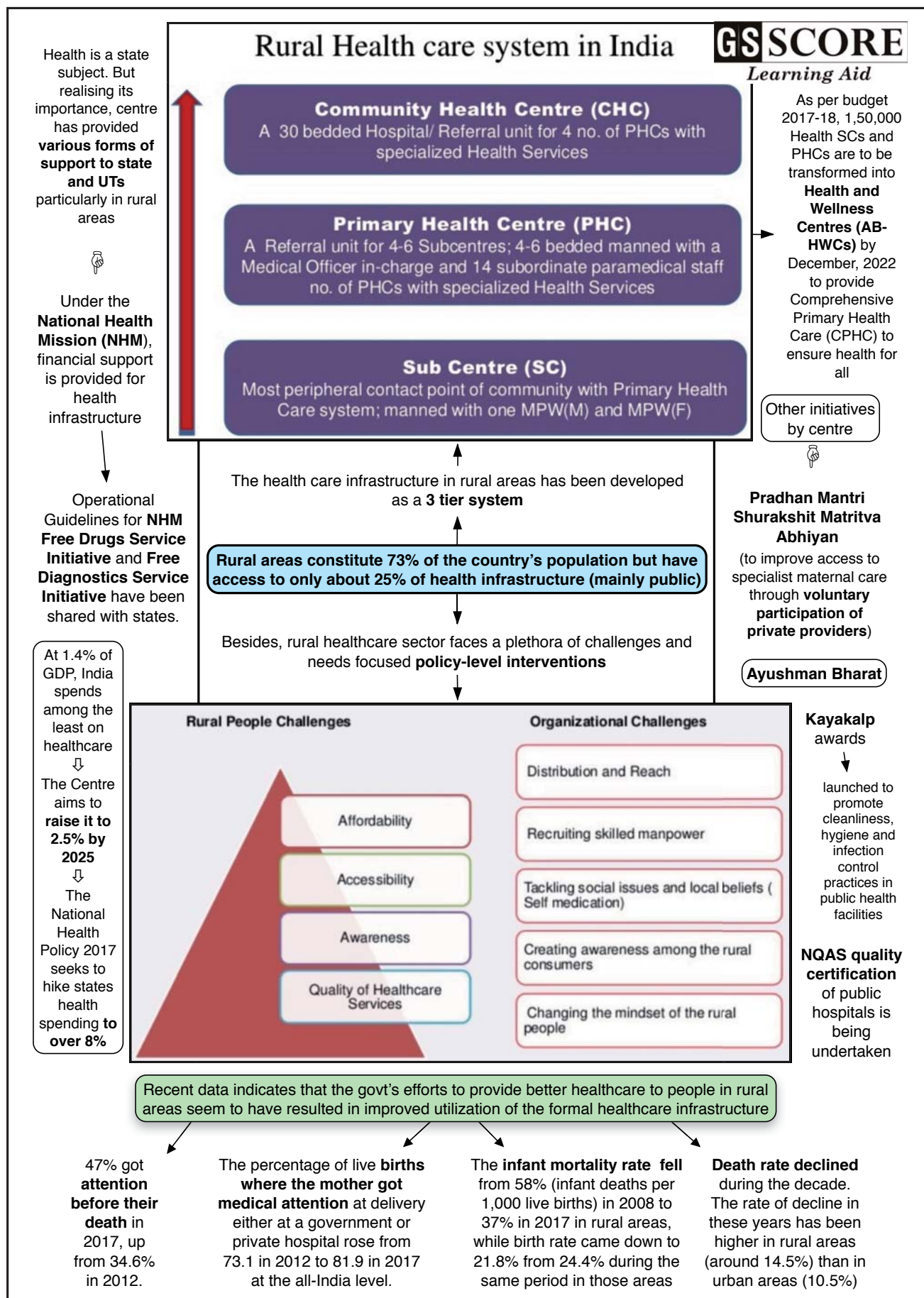
Apart from these it should be ensured that

- Affordable medical facilities are provided to people living in rural areas.
- Medical colleges need to encourage students to visit rural areas and understand the healthcare requirements of poor and downtrodden.
- Doctor in the government service must mandatorily serve in rural areas before getting his/her first promotion.
- Young doctors at grass roots level need to be sensitive to patients and their family.
- Private sector need to work with a spirit of altruism, commitment and missionary zeal in providing modern and affordable healthcare facilities in the rural areas and bridge the urban- rural divide.
- Medical associations should campaign to educate people on preventing lifestyle diseases which are slowly penetrating even the rural areas.



Practice Question

- Enumerate the various initiatives taken by the government to augment rural health care in the country and examine how far they have been successful in tapping the formal healthcare infrastructure more. Also, suggest further interventions needed to provide them quality care.



KASHMIR ISSUE

CONTEXT

- U.S. President Donald Trump claimed that Prime Minister Narendra Modi had sought mediation in Kashmir when they met during the G-20 summit in Osaka.

ABOUT

Back-story on the U.S. offer of mediation

- In 1993, the new administration of U.S. President Bill Clinton decided to wade into the Kashmir issue, indicating repeatedly that it wished to mediate between India and Pakistan.
- At the U.N. General Assembly, Mr. Clinton referred to resolving "civil wars from Angola to the Caucasus to Kashmir," and a month later, the U.S. Assistant Secretary of State questioned the validity of Kashmir's 'Instrument of Accession' during a press briefing.
- India has always opposed any suggestion of third-party mediation on Jammu and Kashmir; both the 1972 Shimla Agreement and the 1999 Lahore declaration included India's and Pakistan's commitment to resolving issues between them.

Why does India refrain from taking help?

- Attempts have worked for diffusing tensions, or calling off hostilities at the Line of Control and the International Border, but not in terms of their rival claims over Jammu and Kashmir.
- Another reason is that India sees itself as a regional leader, and does not require any assistance in sorting out its issues with other regional countries.
- The widespread belief is that mediation favours the weaker party by levelling the playing field, and with its stronger conventional and non-conventional military prowess, India has seen no significant gain from bringing a third-party into its 70-year-old conflict with Pakistan.
- After winning the war with Pakistan that saw the creation of Bangladesh, India, in 1972, negotiated the Simla Agreement, which did away with any idea of future mediation between the two countries.
- According to the Agreement signed in 1972 by Indira Gandhi and by then President Bhutto, the two countries "resolved to settle their differences by peaceful means through bilateral negotiations or by any other peaceful means mutually agreed upon between them".
- In February 1999, the Lahore declaration signed by Nawaz Sharif and Atal Behari Vajpayee also

affirmed the bilateral nature of issues and their resolution.

- These bilateral efforts are at an end at present, and little has moved since the last negotiations on Kashmir in 2003-2008, when Indian and Pakistani negotiators discussed the four-step formula.
- India has maintained its opposition to third-party mediation, however, and despite offers from several leaders including South African President Nelson Mandela, UN Chief António Guterres, and more recently, the Norwegian Prime Minister, Erna Solberg all the above proposals were rejected.

What about the U.S.?

- A particularly bitter episode for India came from mediation attempts by the U.S. and the U.K. after the 1962 Sino-Indian war.
- The U.S. had provided India with planes and military hardware during the war and the price was that India should agree to mediate talks with Pakistan on Kashmir.
- The mediation was accepted because Nehru was in shock after the defeat to China, and the U.S. made it clear that any further military assistance was contingent on India's cooperation on Kashmir talks.
- The day war ended, a team of 24 American negotiators headed to India, to bring India to the table for six rounds of talks between Foreign Ministers. Eventually, however as India regained its confidence, the talks floundered, and ended in 1963 after Nehru made it clear that India would never give up the Kashmir Valley.

Simla Agreement, 1972

- The Simla Agreement signed by Prime Minister Indira Gandhi and President Zulfikar Ali Bhutto of Pakistan on 2nd July 1972 was much more than a peace treaty seeking to reverse the consequences of the 1971 war.
- It was a comprehensive blue print for good neighbourly relations between India and Pakistan.
- Under the Simla Agreement both countries undertook to abjure conflict and confrontation which had marred relations in the past, and to work towards the establishment of durable peace, friendship and cooperation.

- The Simla Agreement contains a set of guiding principles, mutually agreed to by India and Pakistan, which both sides would adhere to while managing relations with each other. These emphasize: respect for each other's territorial integrity and sovereignty; non-interference in each other's internal affairs; respect for each other's unity, political independence; sovereign equality; and abjuring hostile propaganda.
- The following principles of the Agreement are, however, particularly noteworthy:
 - ▶ A mutual commitment to the peaceful resolution of all issues through direct bilateral approaches.
 - ▶ To build the foundations of a cooperative relationship with special focus on people to people contacts.
 - ▶ To uphold the inviolability of the Line of Control in Jammu and Kashmir, which is a most important CBM between India and Pakistan, and a key to durable peace

Lahore Declaration, 1999

- Shall intensify their efforts to resolve all issues, including the issue of Jammu and Kashmir.
- Shall refrain from intervention and interference in each other's internal affairs.
- Shall intensify their composite and integrated dialogue process for an early and positive outcome of the agreed bilateral agenda.
- Shall take immediate steps for reducing the risk of accidental or unauthorised use of nuclear weapons and discuss concepts and doctrines with a view to elaborating measures for confidence building in the nuclear and conventional fields, aimed at prevention of conflict.
- Reaffirm their commitment to the goals and objectives of SAARC and to concert their efforts towards the realisation of the SAARC vision for the year 2000 and beyond with a view to promoting the welfare of the peoples of South Asia and to improve their quality of life through accelerated economic growth, social progress and cultural development.
- Reaffirm their condemnation of terrorism in all its forms and manifestations and their determination to combat this menace.
- Shall promote and protect all human rights and fundamental freedoms.

A brief history of the Kashmir conflict

- The Kashmir issue has caused tension and conflict in the Indian subcontinent since 1947, when independence from Britain created India and Pakistan as two sovereign states.

- Jammu and Kashmir – the full name of the princely Himalayan state, then ruled by Maharaja Hari Singh – acceded to India in 1947, seeking military support after tribal raids from Pakistan into the state's territory.
- In theory, these princely states had the option of deciding which country to join, or of remaining independent. In practice, the restive population of each province proved decisive.
- The people had been fighting for freedom from British rule, and with their struggle about to bear fruit they were not willing to let the princes fill the vacuum.
- Because of its location, Kashmir could choose to join either India or Pakistan. Maharaja Hari Singh, the ruler of Kashmir, was Hindu while most of his subjects were Muslim. Unable to decide which nation Kashmir should join, Hari Singh chose to remain neutral.
- But his hopes of remaining independent were dashed in October 1947, as Pakistan sent in Muslim tribesmen who were knocking at the gates of the capital Srinagar.
- Hari Singh appealed to the Indian government for military assistance and fled to India. He signed the Instrument of Accession, ceding Kashmir to India on October 26.
- The two countries have fought three wars over the region since.
- The ceasefire was intended to be temporary but the Line of Control remains the de facto border between the two countries.
- In 1957, Kashmir was formally incorporated into the Indian Union. It was granted a special status under Article 370 of India's constitution, which ensures, among other things, that non-Kashmiri Indians cannot buy property there.

Ending the conflict

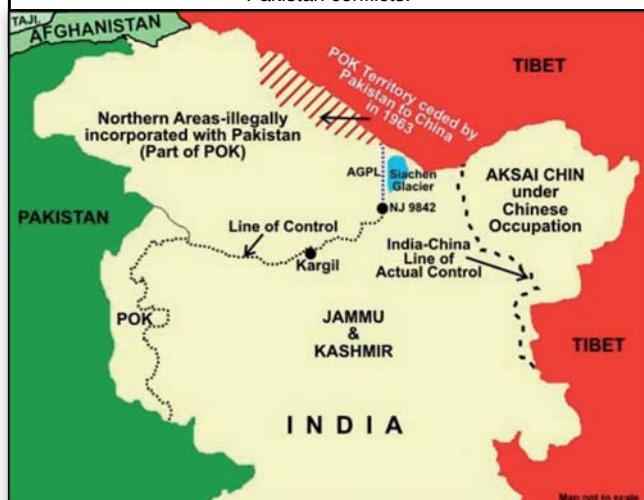
- Tensions in Kashmir may have subsided, but the root causes of the violence there have not.
- In my assessment, the Kashmir dispute cannot be resolved bilaterally by India and Pakistan alone even if the two countries were willing to work together to resolve their differences.
- This is because the conflict has many sides: India, Pakistan, the five regions of Kashmir and numerous political organizations.
- Establishing peace in the region would require both India and Pakistan to reconcile the multiple and sometimes conflicting aspirations of the diverse peoples of this region.
- Only when local aspirations are recognized, addressed and debated alongside India and Pakistan's nationalist and strategic goals will a durable solution emerge to one of the world's longest-running conflicts.

Kashmir Issue**CONTEXT**

U.S. President Donald Trump claimed that Prime Minister Narendra Modi had sought mediation in Kashmir when they met during the G-20 summit in Osaka.

India strongly refuted this and said that territorial disputes between India and Pakistan would be resolved **bilaterally** between both countries and does not require third party intervention or mediation.

Pakistan on the other hand, **prefers third party mediation** in India - Pakistan conflicts.



Indian and Pakistani political parties and influential actors such as military in Pakistan would all have to agree for a '**terms of reference**' for mediation which is difficult to ensure

Third parties typically come with their **own agenda** and would attempt to mediate based on their national interests rather than as a neutral observer

India sees itself as a **regional leader** and feels that it **does not require any assistance** in sorting out its issues with its neighbours.

Reasons for India not supporting mediation on Kashmir

India has seen **no significant gain** by bringing a third-party into this 70-year-old conflict with Pakistan.

There is **historical suspicion** since the 1950s and 1960s as mediated talks by the United Nations, World Bank, the United States, the United Kingdom and Russia have been unsuccessful in resolving the issues between India and Pakistan

The **media** today is **hyper-jingoistic**
↓
A delicate topic like Kashmir is therefore unlikely to be handled objectively by the media and would make successful mediation difficult for all parties involved

That's why when Trump spoke of mediation, India's response was **invoking Shimla Agreement and the Lahore Declaration** saying that, they provide the basis to resolve all issues between India and Pakistan.

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Learning Aid**Background**

Early attempts at mediation by UN were made after India took its complaint against Pakistan's forced occupation of parts of Kashmir (PoK) to the UN Security Council on January 1, 1948

UN then set up the United Nations Commission for India and Pakistan (**UNCIP**) which proposed mediating a resolution along a **3-point action plan**

1. **Pakistani demilitarization** of the Kashmir region
2. **India's reduction** in military presence
3. Final resolution by an impartial UN administered **plebiscite**

These 3 points were to be implemented **sequentially**, but Pakistan refused to take the first step and the plan never came into action

Further in 1962, U.S. provided India with defence equipments during war with China on the condition that, India would agree to **mediated talks** with Pakistan on Kashmir

After the war, US and UK tried 6 rounds of negotiations between India and Pakistan

However, the talks ended when finally **Nehru** made it clear that **India would never give up the Kashmir Valley**

Since then, India has maintained that Kashmir is only a bilateral issue and has to be resolved as such for **various reasons**

This was even agreed to by Pakistan in

Shimla Agreement

After the 1971 war, this agreement was signed

inter alia, the two countries resolved to secure their differences by peaceful means **through bilateral negotiations** or by any other peaceful means **mutually agreed upon** between them

Lahore Declaration

In February 1999, this Declaration was signed by Nawaz Sharif and A.B. Vajpayee

even in this declaration, the **bilateral nature of issues** and their resolution was affirmed

GOVERNOR

CONTEXT

- A question asked in the Bihar Public Service Commission (BPSC) exams asking candidates to examine whether a Governor is a “mere puppet” has caused flutters in political circles.
- “Critically examine the role of Governor in the State politics in India, particularly in Bihar. Is he a mere puppet?” the question asked in the General Knowledge Paper II examination of BPSC Mains read.

◎ BACKGROUND

- It was the British who gave special powers to British Governors in order to allow representative government in India and by this they could take important decisions in their discretion.
- After the elections of 1937, Congress won in 7 provinces and demanded the non-interference of British Governors in the functioning of its Ministries and would refrain from exercising “discretion and special powers”.
- But the framers of the Constitution of independent India chose to retain it in order to preserve the nation’s unity, stability and security.

◎ ANALYSIS

- From a long time, the office of the Governor has been at the centre of controversies for several reasons, the most important one being the range of discretionary powers that the holder of the office enjoys.
- Discretionary powers of the Governor means the powers which s/he exercises as per one’s own individual judgement or without the aid and advice of the Council of Ministers. The Governor has to perform the duties as head of the state and as an agent of the central government and to use this discretionary power, within the peculiar context of our quasi-federal Constitution.
- The flaw lies not with the identity of the individual who occupies the post, but in the design of our Constitution itself.

Constitutional discretion

The Constitution makes it clear that if any question arises whether a matter falls within the governor’s discretion or not, the decision of the governor is final and the validity of anything done by him cannot be called in question on the ground that he ought or ought not to have acted in his discretion.

- Determining the amount payable by the Government of Assam, Meghalaya, Tripura and Mizoram to an autonomous Tribal District Council as royalty accruing from licenses for mineral

exploration

- ▶ According to the Sixth Schedule, if any dispute arises as to the share of such royalties to be made over to a district council, it shall be referred to the governor for determination and the amount determined by the governor in his discretion shall be deemed to be the amount payable to the district council and the decision of the governor shall be final.
- **Seeking information from the chief minister with regard to the administrative and legislative matters of the state**
 - ▶ Many governors have been criticised for expanding their discretionary powers *suomotu*. Tamil Nadu (TN) governor Banwarilal Purohit has been criticised for running a parallel administration of universities within TN and appointing vice-chancellors without consulting the state government. He was already under fire for conducting “review meetings” of government schemes.
- **While exercising his functions as the administrator of an adjoining union territory (in case of additional charge)**
 - ▶ The Supreme Court’s intervention in the constitutional status of the Lieutenant Governor (L.G.) of Delhi following his tussle with the Delhi government has once again exposed the fissures in the federal structure of the country.
 - ▶ The five-judge bench of the Supreme Court in its judgment in *Government of Delhi vs Union of India* stated that the elected representative was the real executive and that the L.G. must act as per the “aid and advice” of the elected government except in matters of land, police and public order.
- **Reservation of a bill for the consideration of the President**
 - ▶ Situations are mentioned in Article 200, when Governor will reserve the bill, yet he can use, discretion regarding this matter.
- **Recommendation for the imposition of the President’s Rule in the state**

- The Governors Committee (1971) laid down the responsibility on the governor to see that the administration of the State does not breakdown due to political instability and he must send a regular report about the political situation of the State.
- In such circumstances, if the Governor reports to the President a breakdown of the constitutional machinery in the State, it is clearly in accordance with his discretionary power. However, as we can see above, such powers have led to conflicts from time to time.
- Apart from above discretionary powers, there are also situational discretionary powers which add to the menance.

Situational discretion

These are hidden discretion derived from the exigencies of a prevailing political situation:

- **Appointment of chief minister when no party has a clear-cut majority in the state legislative assembly or when the chief minister in office dies suddenly and there is no obvious successor**
 - In such cases, governor can favour one political party over others and may even elect a chief minister even with fewer supporters and ask him to prove majority in a specified time. This may even lead to horse trading and defections like it happened in Karnataka recently.
- **Dismissal of the council of ministers when it cannot prove the confidence of the state legislative assembly -**
 - When the ministry losses support of the house, the governor will dismiss the ministry. But he cannot dismiss it until it losses majority support.
- **Dissolution of the state legislative assembly if the council of ministers has lost its majority**
 - The Governor summons prorogues and dissolves the Legislative Assembly, according to article 174. When the ministry loses the majority and if the Governor is satisfied, s/he may dissolve the House.
 - Governor may or may not be advised by the ministry to dissolve the Assembly. In this case also, the Governor is fully entitled to act according to his discretion, in the interest of the state concerned thereby leading to conflicts.
 - To avoid such conflicts, there have been several recommendations by committees and judgements by various courts.

Recommendations of SC Judgements and Committees

- Governor is neither a decorative emblem nor a glorified cipher. His powers are limited, but he

has an important constitutional role to play in the governance of the state and in strengthening federalism.

- Now, there is a pressing need to reassess Centre-state relations in general and the functions of the governor in specific. Many committees focused on **Articles 356 and 357** like:
 - **Deletion of articles:** The **Rajamannar Committee** (1971) recommended the deletion of Articles 356 and 357 from the constitution of India and also emphasised that the governor of the state should not consider himself as an agent of the centre but play his role as the constitutional head of the State.
 - **Rare use of articles:** The **Sarkaria Commission** (1988) recommended that Article 356 should be used in very rare cases when it becomes unavoidable to restore the breakdown of constitutional machinery in the State.
 - The commission recommended that before taking action under Article 356, a warning should be issued to the state government that it is not functioning according to the constitution.
 - **Last way to articles:** **Justice V. Chelliah Commission** (2002) recommended that Article 356 must be used sparingly and only as a remedy of the last resort after exhausting all actions under Articles 256, 257 and 355.
 - **Amendment in the articles:** The **Punchhi commission** recommended that Articles 355 & 356 be amended. It sought to protect the interests of the States by trying to curb their misuse by the Centre.
 - Supreme Court gave many judgements regarding the discretionary powers of Governors like the **Nabam Rebia judgment** (2016) which emphasized that the exercise of Governor's discretion Article 163 is limited and his choice of action should not be arbitrary or fanciful. It must be a choice dictated by reason, actuated by good faith and tempered by caution.
 - **Judgement on the President's Rule:** The **Administrative Reforms Commission** (1968) recommended that the report of the governor regarding the president's rule has to be objective and also the governor should exercise his own judgment in this regard.

Concerns due to abuse of power by Governor

- The union government is able to control the affairs of the states with the Governor who is appointed by them and reports directly to the President.
- Abusing the discretionary powers while selecting the parties to form government will break the democratic set up as government is formed by

parties who did not have majority support of people.

- Either way, to stay true to the spirit of the Constitution, the Governor should desist from conferring discretionary powers to his office where there are none.
- The people will lose faith in the office of Governor who in most cases acts like an agent of the union government and not as an independent office.

Way Forward

- It is equally important that the governor must act judiciously, impartially and efficiently while exercising his discretion and personal judgment for the smooth functioning of a democratic government.
- An agreed 'Code of Conduct' should be approved by the state governments to lay down certain 'norms and principles' which should guide the

exercise of the governor's 'discretion' and his powers which he is entitled to use and exercise on his personal judgment.

- The 'procedure for appointment of governors should be clearly laid down' and conditions of appointment must also be laid down and must assure a fixed tenure for the governor so that the governor is not under the constant threat of removal by the central government.
- It is necessary to invest the office of the Governor with the requisite independence of action and to rid them of the bane of 'instructions' from the Central Government.
- The role of governor is indispensable for the successful working of the constitutional democracy. He must refrain from aligning himself to any political ideology. The virtue of impartiality must be withheld to ensure a free and fair election in a democracy.

The office of 'Governor'**CONTEXT**

A question asked in the Bihar Public Service Commission (BPSC) exam asking candidates to examine whether a Governor is a "mere puppet" has caused flutters in political circles.

2. Critically examine the role of Governor in the State politics in India, particularly in Bihar. Is he a mere puppet?

GS SCORE**Learning Aid****Appointment & Removal → by President****Conventions**

CM should be consulted (to avoid any frictions)

should be an outsider from the state concerned (so that, free from local politics)

However, both the conventions can be and have been violated

This is especially visible after a party change at centre when summarily many governors are changed

The issues with the office

It was British who started the practice of giving discretionary power to governors

framers of the Constitution chose to retain it in order to preserve the nation's unity, stability and security

Art. 200 gives options to governor

reserve certain bills (money as well as ordinary) for consideration of President

The governor has been assigned with numerous discretionary powers like

can recommend imposition of constitutional emergency in state to president (356)

if imposed, Governor has extensive executive powers in state

SC has ruled that the office of governor is an **independent constitutional office** (not subordinate to central govt)

However, there are numerous instances since independence which show that governor has taken **decisions in partisan ways**

(for e.g., Art.356 has been imposed on more than 100 occasions since 1950 and a number of these seem to have been **imposed for political and personal reasons**)

Some recommendations w.r.t. Governor by various committees and SC judgements**Administrative Reforms Commission (1968)**

report of the governor regarding the president's rule has to be **objective** and also the governor should exercise his own judgment in this regard

Sarkaria Commission (1988)

Article 356 should be used in very **rare cases** and a **warning** issued to govt before imposing it

Justice V. Chelliah Commission (2002)

Article 356 must be used sparingly and only as a **remedy of the last resort** after exhausting all actions under Articles 256, 257 and 355.

deletion of Articles 356 and 357 from the constitution

Articles 355 & 356 should be amended. It sought to protect the interests of the States by trying to **curb their misuse by the Centre**

Rajamannar Committee (1971)

emphasised that the governor of the state should not consider himself as an agent of the centre but **play his role as the constitutional head** of the State

Nabam Rebia judgment by SC (2016)

exercise of Governor's discretion under **Article 163** is limited and his choice of action should not be arbitrary or fanciful. It must be a choice dictated by reason, actuated by good faith and tempered by caution.

Punchhi commission

The '**procedure for appointment of governors** should be clearly laid down' and conditions of appointment must also be laid down and must assure a fixed tenure for the governor so that the governor is not under the constant threat of removal by the central government.

Way Ahead

It is necessary to invest the office of the Governor with the **requisite independence of action** and to rid them of the bane of 'instructions' from the Central Government.

The role of governor is indispensable for the successful working of the constitutional democracy. He must **refrain from aligning himself to any political ideology**. The virtue of impartiality must be withheld to ensure a free and fair election in a democracy.

RTI ACT AMENDMENT

CONTEXT

- Parliament passed the Right to Information (Amendment) Bill, 2019, amid uproars that changes diluted the crucial transparency law.

◎ BACKGROUND

- Information empowers and enables people; pushes them towards exercising their legal, social, economic and political rights. It spreads awareness among citizens and creates a culture of transparency and accountability so as to make the system of governance of a nation closer to impeccability.
- In India, it all started with petitions of the press to the Supreme Court, relating to issues of enforcement of the right to freedom of speech and expression. Access to information was realised as being a key tool to fight corruption and wrongdoing, the public has a right to scrutinise the actions of its leaders and engage them into a full and open debate - the free flow information is a must for a society so diverse in its mind-sets.
- The Supreme Court, in **State of U.P v. Raj Narain** - a 1974 case, recognized the 'right to know' as a right inherent in **Fundamental Right to freedom of speech and expression** guaranteed under **Article 19(1)(a)** of the Constitution.
- **Consequently, The Right to Information (RTI) Act 2005** was thus passed to empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in real sense.

Right to Information (RTI) Act 2005

- Under the RTI Act, 2005, Public Authorities are required to make suo moto disclosures on various aspects of their structure and functioning. This includes:
 - The disclosure on their organisation, functions, and structure.
 - The powers and duties of its officers and employees.
 - The financial information.
- The intent of such disclosures is that the public should need minimum recourse through the Act to obtain such information.
- If such information is not made available, citizens have the right to request for it from the Authorities.
- This may include information in the form of documents, files, or electronic records under the control of the Public Authority.

- The intent behind the enactment of the Act is to promote transparency and accountability in the working of Public Authorities.

Meaning of the Term 'Public Authorities'

- 'Public Authorities' include bodies of self-government established under the Constitution, or under any law or government notification.
- For instance, these include Union Ministries, Public Sector Undertakings, and Regulators.
- It also includes any entities owned, controlled or substantially financed and non-government organizations substantially financed directly or indirectly by funds provided by the government.

We can include the recent controversy of Judiciary being under RTI

Enforcement of RTI in India

- The Act has established a **three tier structure** for enforcing the right to information guaranteed under the Act.
- Public Authorities designate some of their officers as Public Information Officers.
- The first request for information goes to Central/State Assistant Public Information Officer and Central/State Public Information Officer, designated by the Public Authorities.
- These Officers are required to provide information to an RTI applicant within 30 days of the request.
- Appeals from their decisions go to an Appellate Authority.
- Appeals against the order of the Appellate Authority go to the State Information Commission or the Central Information Commission.
- These Information Commissions consists of a Chief Information Commissioner, and up to 10 Information Commissioners.

- The Right to Information (RTI) Act has shown an early promise by exposing wrongdoings at high places, such as in the organisation of the Commonwealth Games, and the allocation of 2G spectrum and coal blocks. However, it now faces multiple challenges.

In issues – only IAS officers occupy the key positions, Issues with RTI Act 2005

- Lack of awareness amongst the citizens and various constraints like fees, complicated procedures faced by them.
- The Information commissions can only direct public authorities to take necessary steps to comply with the Act, but cannot enforce if such directions are ignored.
- The Central and State Information Commissions have been functioning with less than their prescribed maximum strength of eleven because governments have not shown enthusiasm in making appointments.
- Vacancies lead to delay in disposal of cases, which is further compounded by the backlog in the High Courts, where a number of decisions of the commission are challenged.
- Numerous frivolous queries often continue along genuine ones leading to clogging of the RTI system.
- Suo motu disclosure required under RTI Act has remained unsatisfactory.
- Lack of infrastructure, staff and proper training to information officers.
- It has several limited provisions for organisations like judiciary, legislature and law enforcement agencies.

Though these challenges were already a drag on the efficient working of Information Commissioners, the new amendments proposed by the government further dilutes the provisions and powers of RTI Act.

Right to Information (Amendment) Bill, 2019

Key Provisions

- The Bill changes the **terms and conditions of service** of the CIC and Information Commissioners at the centre and in states.
- **Comparison of the provisions of the Right to Information Act, 2005 and the Right to Information (Amendment) Bill, 2019**

Provision	RTI Act, 2005	RTI (Amendment) Bill, 2019
Term	The Chief Information Commissioner (CIC) and Information Commissioners (ICs) (at the central and state level) will hold office for a term of five years .	The Bill removes this provision and states that the central government will notify the term of office for the CIC and the ICs.

Salary	The salary of the CIC and ICs (at the central level) will be equivalent to the salary paid to the Chief Election Commissioner and Election Commissioners, respectively.	The Bill removes these provisions and states that the salaries, allowances, and other terms and conditions of service of the central and state CIC and ICs will be determined by the central government .
Deductions in Salary	The Act states that at the time of the appointment of the CIC and ICs (at the central and state level), if they are receiving pension or any other retirement benefits for previous government service, their salaries will be reduced by an amount equal to the pension.	The Bill removes these provisions.

Issues with the New Amendments

The bill threatens to dilute the autonomy of the Information Commissions at the Centre as well as states in the following ways:

- Doing away with the equivalence of the Central Information Commissioners with the Election Commissioners on the ground that the two have different mandate will send a message that **transparency is less important for a democracy than holding of free and fair elections** is preposterous.
- Replacing the existing fixed five-year tenure of the Information Commissioners with tenure as prescribed by the government would make the tenure largesse to be bestowed by the government.
- It's against federalism as the Central government will also control through rules, the terms and conditions of appointment of Commissioners in the States.

Protecting citizens' right to information is a cause important enough for adjudicating authorities to be vested with high status and security of tenure. Given the extent to which the RTI Act has empowered citizens and helped break the hold of vested interests over the

administration, the law has always faced a threat from many in power. The RTI Act was a consensus law and a product of public consultation. Thus it should be strengthened rather than weakening.

Way Forward

- Transparency law should be strengthened in line with Supreme Court judgements that right to information is being integral to the right to free expression under Article 19(1)(a).
- The law needs to be amended to bring about full compliance by government departments and agencies that receive substantial funding from the exchequer.
- Every public authority should computerise their records for wide dissemination and proactively publish certain categories of information so that

the citizens need minimum recourse to request for information formally.

- Amendments should be widely discussed by citizens and RTI activists in the public domain before converting them into law.
- People should be united, organised and more vigilant about work in government sector to make this act successful and fight against corruption and unlawful activities.

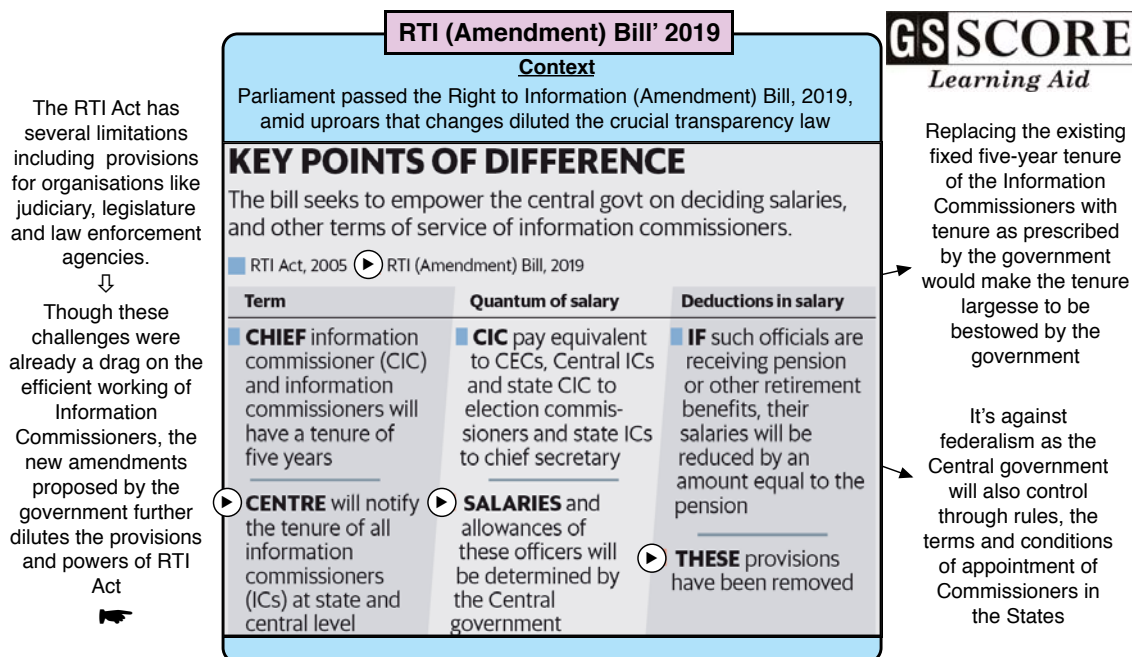
Conclusion

The RTI has unshackled millions of users who will continue to use this democratic right creatively and to dismantle exclusive power. The RTI has been and will be used to withstand attacks on it-self and strengthen the movement for transparency and accountability in India. Government will realise that while it might be able to amend a law, it cannot stop a movement.

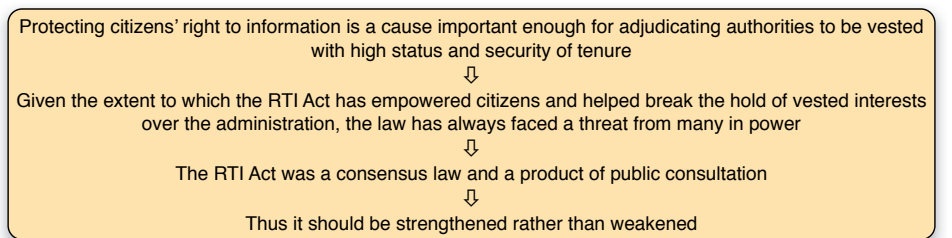


Practice Question

- Do you think that holding free and fair elections is more important than promoting transparency? Critically examine in light of recent amendments to the RTI Act.



Doing away with the equivalence of the Central Information Commissioners with the Election Commissioners on the ground that the two have different mandate will send a message that **transparency is less important for a democracy than holding of free and fair elections**

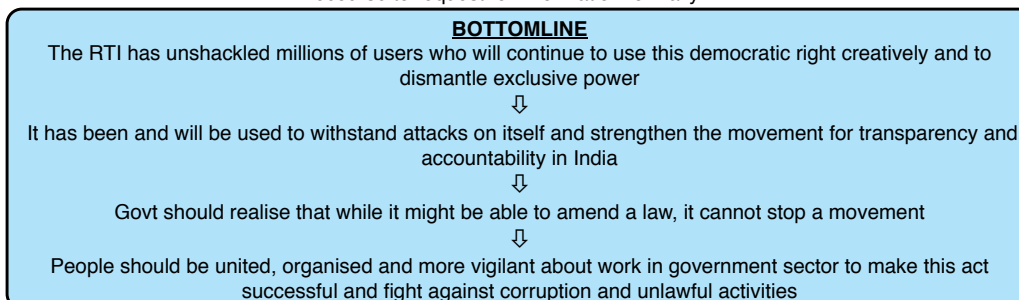


The law should be strengthened in line with SC judgements that RTI is being integral to the right to free expression under Article 19

The law needs to be amended to bring about full compliance by government departments and agencies that receive substantial funding from the exchequer

Amendments should be widely discussed by citizens and RTI activists in the public domain before converting them into law

Every public authority should computerise their records for wide dissemination and proactively publish certain categories of information so that the citizens need minimum recourse to request for information formally



TRANSGENDER BILL 2019

CONTEXT

- The Transgender Persons (Protection of Rights) Bill, 2019 was recently introduced in Lok Sabha by the Minister for Social Justice and Empowerment.

◎ BACKGROUND

- Transgender community includes Hijras, Eunuchs, Kothis, Aravanis, Jogappas, Shiv-Shakthis etc., who have been a part of Indian society for centuries. The Vedic and Puranic literatures mention "tritiyaprakriti" meaning the third gender.
- Though most of the eunuchs seen today are begging at traffic signals or during weddings, they were a respected lot during the Mughal rule in the Medieval India.
- During the British rule, they were denied civil rights and were considered a separate caste or tribe who did kidnapping and castration of children and danced and dressed like women.
- In Post-Independence Era, the Act was repealed but its legacy continues and many local laws reflected the prejudicial attitudes against certain tribes, including Hijras.
- In contemporary times, the LGBTQ group is referred to as the "lesbian, gay, bisexual, transgender, and queer community" which includes those with gender dysphoria and different sexual orientations.
- It also needs to be understood that "Sex" and "Gender" are different things. One may be born as Male (sex) but may identify himself like a Woman (Gender). So "Sex" is biological and "Gender" is the real sexual identity of a person.

Transgender in India

• Count

- Indian census has never recognized the third gender, i.e., transgender while collecting census data for years.
- According to the 2011 Census, the number of persons who do not identify as 'male' or 'female' but as 'other' stands at 4,87,803 (0.04% of the total population)
- The 2011 census also reported 55,000 children as transgender identified by their parents.

• Issues

- Sexual health issues
 - Transgender communities face several sexual health issues including HIV.
 - Both personal- and contextual- level factors

influence sexual health condition and access to and use of sexual health services.

➤ Mental health issues

- Some of the mental health issues reported in different community forums include depression and suicidal tendencies, possibly secondary to societal stigma, lack of social support and violence-related stress.
- Most transgender people, especially youth, face great challenges in coming to terms with one's own gender identity which are opposite to that of the gender identity imposed on them on the basis of their biological sex.
- They face several other related issues such as: shame, fear, and internalized transphobia; adjusting, adapting, or not adapting to social pressure to conform; fear of loss of relationships; and self-imposed limitations on expression or aspirations.

• Violence

- Multiple studies have shown that transgender people across the age spectrum face alarmingly high rates of physical and verbal violence, including child abuse, sexual violence, intimate partner violence, workplace violence and hate crimes.

• Social Exclusion

- Social Exclusion Framework is increasingly used in highlighting the issues and problems faced by disadvantaged and disenfranchised groups.
- **Family** - Most families do not accept if their male child starts behaving in ways that are considered feminine or inappropriate to the expected gender role. Consequently, family members may threaten, scold or even assault their son/sibling from behaving or dressing-up like a girl or woman.
- **Health care Setting** - Often, healthcare providers rarely had the opportunity to understand the sexual diversities and they do not have adequate knowledge about the health issues of sexual minorities.
- **Lack of livelihood options** - Most employers deny employment for even qualified and skilled transgender people. Lack of livelihood options is a key reason for

a significant proportion of transgender people to choose or continue to be in sex work.

- **Residence** – The community is grossly discriminated by Indian Society when it comes to renting or selling the house to a transgender.
- **Insurance** – Health insurance companies often systematically exclude transition-related care and in many cases these exclusions are used to deny coverage for a wide range of care for transgender people that may or may not have any connection to gender transition.

Initiatives Taken

- The **Supreme Court** of India passed a unique judgment in 2014 stating one's sexual orientation as the integral part of personality, dignity, and freedom and identified transgender as a **third gender**.
- In the **National Legal Services Authority (NALSA) versus Union of India case**, the apex court provided the transgender (Hijras and Eunuchs) a legal identity.
- In India, **Tamil Nadu was the first state** to introduced **Transgender welfare policy**. According to this policy Transgender people can access free Sex Reassignment Surgery (SRS) in all Government Hospital, free housing program, various citizenship documents, admission in government colleges with full scholarship for higher studies etc.
- The **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** is a major initiative of the 11th Five Year Plan period which brought employment opportunities for transgender people.
- In 2017, a nine judge bench of the Supreme Court held that the **Right To Privacy** and the **protection of sexual orientation** lies at the core of the fundamental rights guaranteed by Articles 14, 15 and 21 of the Constitution.
- In 2018, a Constitution Bench of the Supreme Court has unanimously **decriminalised homosexuality (Section 377)**. Section 377 created a class of criminals by typecasting Lesbian, Gay, Bisexual, and Transgender, Queer (LGBTQ) individuals as sex-offenders.
- **Human Rights Campaign Foundation** has released **Corporate Equality Index (CEI)** which is the national benchmarking tool on corporate policies and practices pertinent to lesbian, gay, bisexual, transgender and queer employees.
- **Occupational Safety, Health and Working Conditions Code, 2019** requires the employer to provide a hygienic work environment like separate bathing places and locker rooms for male, female and transgender employees

• The Transgender Persons (Protection of Rights) Bill, 2019

Key Provisions

- **Definition of a transgender person:** The Bill defines a transgender person as one whose gender **does not match the gender assigned at birth**. It includes trans-men and trans-women, persons with intersex variations, gender-queers, and persons with socio-cultural identities, such as kinnar and hijra. **Intersex variations** are defined to mean a person who at birth shows variation in his or her primary sexual characteristics, external genitalia, chromosomes, or hormones from the normative standard of male or female body.
- **Prohibition against discrimination:** The Bill prohibits the discrimination against a transgender person, including denial of service or unfair treatment in relation to: (i) education; (ii) employment; (iii) healthcare; (iv) access to, or enjoyment of goods, facilities, opportunities available to the public; (v) right to movement; (vi) right to reside, rent, or otherwise occupy property; (vii) opportunity to hold public or private office; and (viii) access to a government or private establishment in whose care or custody a transgender person is.
- **Right of residence:** Every transgender person shall have a right to reside and be included in his household.
- **Employment:** No **government or private entity** can discriminate against a transgender person in employment matters, including recruitment, and promotion.
- **Education:** Educational institutions funded or recognised by the relevant government shall provide inclusive education, sports and recreational facilities for transgender persons, without discrimination.
- **Health care:** The government must take steps to provide health facilities to transgender persons including separate HIV surveillance centres, and sex reassignment surgeries. The government shall review medical curriculum to address health issues of transgender persons, and **provide comprehensive medical insurance schemes** for them.
- **Certificate of identity for a transgender person:** A transgender person may make an application to the **District Magistrate** for a certificate of identity, indicating the gender as 'transgender'. A revised certificate may be obtained only if the individual undergoes surgery to change their gender either as a male or a female.
- **Welfare measures by the government:** The Bill states that the relevant government will take measures to ensure the full inclusion and participation of transgender persons in society.

- **Offences and penalties:** The Bill recognizes the following offences against transgender persons: (i) forced or bonded labour (excluding compulsory government service for public purposes), (ii) denial of use of public places, (iii) removal from household, and village, (iv) physical, sexual, verbal, emotional or economic abuse. Penalties for these offences vary between six months and two years, and a fine.
- **National Council for Transgender persons (NCT):** The NCT will consist of: (i) Union Minister for Social Justice (Chairperson); (ii) Minister of State for Social Justice (Vice- Chairperson); (iii) Secretary of the Ministry of Social Justice; (iv) one representative from ministries including Health, Home Affairs, and Human Resources Development. Other members include representatives of the NITI Aayog, and the National Human Rights Commission. State governments will also be represented. The Council will also consist of five members from the transgender community and five experts from non-governmental organisations.

Issues in the Bill

- **Self-Identity:** Even though the bill says that a transgender person "shall have a right to self-perceived gender identity," its language could be interpreted to mean transgender people are required to have certain surgeries before legally changing their gender.
- **Privacy:** A District Screening Committee would issue a certificate of identity to recognise transgender persons. This is also a violation of Fundamental Right to Privacy.
- **Definition:** The definition of 'transgender persons' in the Bill is at variance with the definitions recognised by international bodies and experts in India. The terms, 'trans-men', 'trans-women', persons with 'intersex variations' and 'gender-queers' have not been defined.
- **Existing Framework:** Certain criminal and personal laws that are currently in force only recognise the genders of 'man' and 'woman'. It is unclear how such laws would apply to transgender persons who may not identify with either of the two genders
- **Other Issues:**
 - If a transgender person is denied a **Certificate of Identity**, the Bill does not provide a mechanism for appeal or review of such decision of the District Screening Committee.
 - The bill is also silent on whether a trans person who holds a male or female gender certificate will have access to government welfare schemes and programs meant for transgender people
 - The Bill is silent on granting **reservations** to transgender persons.
 - The Bill does not mention any punishments for rape or sexual assault of transgender persons as according to Sections 375 and 376 of the Indian Penal Code, rape is only when a man forcefully enters a woman.

Recommendations

• Regarding Bill

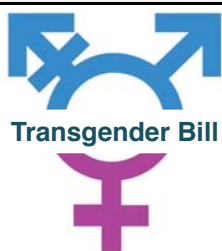
- The mention of intersex persons in the Indian bill is an important inclusion but the bill should be **renamed the Rights of Transgender and Intersex Persons Bill** and include explicit protections for intersex people in line with India's international human rights obligations.
- The bill should be revised to emphasize training teachers to help them adopt inclusive teaching methods to ensure that children are not harassed or discriminated against by staff or other children.

• Other Recommendations

- Govt. hospitals should have medical facilities for Transgender Community for undergoing feminization treatment.
- The government should implement stigma and discrimination reduction measures through a variety of ways like mass media awareness for the general public to focused training and sensitization for police and health care providers.
- India should take lessons from Thailand. It is one of those model countries wherein all the required facilities are being made available to the Transgender Community.
- Parents of the Transgender need to be counseled appropriately in order to treat Kinnar children at par with other normal children
- There should be a population of the community. The community should be involved in this exercise. For the time being, United Nations Development Programme(UNDP has more authentic data on Transgender in India. It could be used for planning welfare schemes.
- Ministry of Social Justice and Empowerment should take up research studies to generate more evidence to design the programs and interventions for the community.
- The ministry should also compile the existing experiences /interventions taken by many States like Tamil Nadu, Maharashtra, Sikkim, and Delhi etc.

Context

The Transgender Persons (Protection of Rights) Bill, 2019 was recently introduced in Lok Sabha by the Minister for Social Justice and Empowerment.

**Transgender Bill****SC judgement in 2014 in NALSA v/s Union of India**
GSSCORE
Learning Aid

recognised applicability of **fundamental rights** and granting of **reservation** to transgenders

Individuals have right to **self-identification** of their sexual orientation even without medical intervention

The following flow charts summarise the **key provisions in the bill** and their **corresponding criticisms**

Definition and Identification**Broader Definition**

gender does not match the gender assigned at birth

Who designate themselves based on socio-cultural identities such as hijra, aravani, kinner and jogta.

transmen, transwomen, those with intersex variations, the gender-queer

Rights Groups (**RGs**) say that this definition is not complete and terms like transmen are not defined clearly

every transgender person (**TP**) must obtain an identity certificate (to be granted by DM on recommendations of a screening committee)

This violates the self-identification principle as highlighted in the SC judgement

Welfare measures

directs central and state govts to provide welfare schemes to transgenders

but no provisions for granting reservation as directed by SC judgement in 2014.

set up National Transgender Council

However, RGs demand state welfare boards as well

prohibits discrimination against transgenders in education, employment, healthcare, etc

Bill fails to recognise civil rights in marriage, divorce and adoption as well as rights of inheritance

Protection and Rehabilitation

provision for forcibly rehabilitating sex work survivors

doesn't give consideration to consensual sex workers

criminalises "organised begging"

(by making it an offence for someone to compel a TP to seek alms)

This may harm the TP in absence of employment opportunities.

bar on forcible separation of transgender children from their families

But most TPs suffer discrimination and harassment within their families and find shelter and equal treatment within their own communities

provides for upto 2 year imprisonment and fine for offences against TPs but doesn't make sexual violence against them a criminal offence

in current law on rape, the provision is gender specific and TPs have no recourse to criminal law

Some more measures that can be taken

Ministry of Social Justice and Empowerment should take up **research studies** to design appropriate programs and interventions for the TPs

Govt should implement **stigma and discrimination reduction measures** through a variety of ways like mass media awareness for the general public to focused training and sensitization for police and health care providers

Govt. hospitals should have **medical facilities** for Transgender Community for undergoing feminization treatment

Bottomline

The bill is an opportunity to ensure that the constitutional rights of transgender persons are realised. The opportunity must not be lost and the prevailing concerns over the legislation must be addressed.

WHY ARE PARLIAMENTARY STANDING COMMITTEES NECESSARY?

CONTEXT

- Eleven of the 22 Bills introduced in the ongoing session of Parliament have been passed without scrutiny by parliamentary standing committee.
- These committees enable detailed consideration of a piece of legislation.
- The article will comprehensively cover nature, type, evolution and efficacy of parliamentary standing committees. It will also deal with the nature of threats perceived on its working.

◎ ABOUT:

- The Job profile and the structure of a parliamentary standing committee and the Parliament is the same. It is same to the effect that the committees are sometimes referred to as the mini Parliament.
- In a parliamentary democracy, Parliament has broadly two functions:
 - Lawmaking
 - Oversight of the executive branch of the government.
- Parliament is the embodiment of the people's will. **Committees are an instrument of Parliament for its own effective functioning.**

◎ BACKGROUND:

- Parliamentary committees draw their authority from two articles:
 - **Article 105** (on privileges of Parliament members)
 - **Article 118** (on Parliament's authority to make rules for regulating its procedure and conduct of business).
- Committee reports are exhaustive and provide authentic information on matters related to governance.
- Bills that are referred to committees are returned to the House with significant value addition. **Parliament is not bound by the recommendations of committees**

◎ ANALYSIS

- The work done by the Parliament in modern times is not only varied in nature, but considerable in volume. The time at its disposal is limited. It cannot, therefore, give close consideration to all the legislative and other matters that come up before it.
- A good deal of its business is, therefore, transacted in Committees of the House, known as Parliamentary Committees.

- In India, the earliest Parliamentary Committees were the Public Accounts Committee (1921) followed by the Estimates Committee (1950). In 1993, the current system of Department Related Standing Committees (DRSC) was established replacing subject committees and the structure has largely remained the same till date.

Types of Parliamentary Committee:

- **The Standing Committees (DRSC)**, aligned with specific ministries examine their performance and budgets apart from bills or subjects related to their respective ministries.
- **The Financial Committees** are primarily responsible for scrutinizing the expenditure priorities of the government, suggest measures to improve efficiency in spending and performance of Public Sector Undertakings.
- **The Select Committee** is formed for analyzing a specific legislation/policy and is disbanded after submission of its reports.
- **The Administrative Committees** are primarily responsible for ensuring day-to-day activities of the legislature are planned in consultation with the members.
- The chair uses her discretion to refer a matter to a parliamentary committee but this is usually done in consultation with leaders of parties in the House.
- Financial control is a critical tool for Parliament's authority over the executive; hence finance committees are considered to be particularly powerful.
- The **three financial committees** are the **Public Accounts Committee**, the **Estimates Committee** and the **Committee on Public Undertakings**.
- Members from both Houses across party lines are represented in most of these committees. Since ministers are part of the executive and legislature is a separate arm to keep a check on the executive, **ministers are not a part of any Standing Committees.**

What benefits does the committee form bring with it

- Parliament sessions are typically scheduled thrice a year and committees meet frequently around the year. Between 1952-1962, the Parliament convened for about 120 days a year. The sittings have gradually declined to 65 days in 2016 and 2017.
- Between 2009-16, the Standing Committees convened for an average of 450 sittings a year and **clocked in more hours of work than the Lok Sabha**.
- The laws and regulations that are required to govern a digital society cannot be made without **highly specialized knowledge and political acumen**.
- Members of Parliament may have great acumen** but they would require the **assistance of experts** in dealing with such situations. It is through committees that such **expertise is drawn** into lawmaking.
- In recent years, instances of disruption in Parliament has increased. For example, the 2018 Budget Session was the least productive budget session in the last 18 years. However, the **proceedings of the committees — held behind closed doors — are insulated from these disruptions**.
- It ensures that detailed scrutiny of government finances, legislation and working continues to take place even if Parliament sessions are disrupted. With a representation of members from across political parties, these **committees also act as a consensus-building platform**.
- Another remarkable feature of the committee system is its **engagement with relevant stakeholders and power to summon witnesses**. The committees regularly seek feedback from citizens and experts on subjects it examines.
- For example**, the RBI governor was summoned by the Finance Committee on the subject of demonetization; then Secretary for Foreign Affairs, S Jaishankar appeared before the Committee on External Affairs on relations between India and China.
- The committees also publish reports on the status of implementation of their recommendations.

Issues and challenges in the committee system:

- Fewer bills are being referred to it:** To strengthen the lawmaking process, it is important that all bills are examined by Standing Committees before passage. This ensures thorough scrutiny of the law.
- In India, there is no such rule to ensure all bills are referred to committees. As a convention, the

ministry piloting the bill recommends the Speaker to refer a bill to the Standing Committee.

- Longer tenure for members:** The committee system allows a smaller group of legislators to develop technical expertise on a particular subject and ensure better deliberation.
- In the present format, the members are nominated to a Standing Committee for one year. However, shifting of committees every year defeats this purpose.
- The vice-president, as chairman of the Rajya Sabha, recently emphasized on the need to extend the tenure of committee members.
- Discussion of committee reports:** The committees make several recommendations in their reports after thorough analysis and feedback from stakeholders.
- Since these are recommendatory in nature, the executive may not necessarily accept them. Moreover, the reports of the committees are not taken up for discussion in Parliament except for references in certain debates on bills.
- Several of committee's recommendations are neither implemented nor discussed
- Research Support:** Committees examine issues that are technical in nature. To equip members to gain an in-depth understanding of issues and finally give sound and nuanced recommendations, it is important that quality research is made available to them.
- Institutional research support will allow committees to serve as expert bodies to examine complex policy issues.
- National Commission to Review the Working of the Constitution, 2002** also recommended need for referring all bills to committee, longer tenure for members and strengthening committees with adequate research support.

Way forward

- There are existing practices in other countries that can contribute to strengthening the committee system in India.
- In the British House of Commons, the committees interact on certain overlapping subjects. Committees related to defense, foreign affairs, international development, and trade & industry form the Quadripartite Committee which examines government's arms export licenses.
- In several countries, the concerned minister appears before the committee to elaborate and defend the policies of the government. In India, ministers don't appear before the committees but other functionaries do.
- Strengthening the committee system can go a long way in improving the quality of laws drafted and minimize potential implementation challenges.

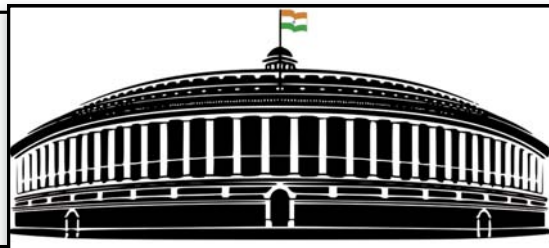
- The need of the hour is for greater and effective utilization of Parliamentary Committees to strengthen Parliament as a deliberative body which can ensure effective oversight.
- Smaller cohort of lawmakers who are assembled on the basis of the proportional strength of individual parties and interests and expertise of individual lawmakers, could have more open, intensive and better informed discussions.
- Committee meetings are 'closed door' and members are not bound by party whips, which allows them the latitude for a more meaningful exchange of views as against discussions in full and open Houses where grandstanding and party positions invariably take precedence.
- If the government (executives) bypass them, they might get a legislation due to their numerical strength - passed quickly - but this legislation will lack efficacy in the troubled times.



Practice Question

- **Congress in session is Congress on public exhibition, whilst Congress in its committee- rooms is Congress at work." - Woodrow Wilson. Comprehensively define nature, type and efficacy of parliamentary committees within the context of them being bypassed by the current government.**

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Parliamentary Standing Committees (PSC)

GSSCORE
Learning Aid

Eleven of the 22 Bills introduced in the ongoing session of Parliament have been passed **without scrutiny by parliamentary standing committees**. This makes this session a highly productive one in many years but also brings into question the role and functioning of the parliamentary standing committees which **enable detailed consideration of a piece of legislation**.

After formation of the 17th Lok Sabha, PSCs have **not been constituted** as consultations among parties are still under way

Partly as a result of this, the Bills were passed **without committee scrutiny**

They were discussed in Parliament over durations ranging between **only 2-5 hours**

Many legislations deal with sensitive issues and **require a deeper discussion and deliberation**. This need can only be fulfilled by the PSCs

Constitutional provisions related to PSCs

They draw their authority from

Article 105
(on privileges of Parliament members)

Article 118
(on Parliament's authority to make rules for regulating its procedure and conduct of business)

Types of Parliamentary Committees

Standing Committee

Most committees are 'standing' as their existence is uninterrupted and usually reconstituted on an annual basis

Select Committee

These are formed for a specific purpose, for instance, to deliberate on a particular bill. Once the Bill is disposed of, that select committee ceases to exist.

The Parliament performs broadly two functions which are **law making** and **oversight of the executive branch** of the govt.

These Committees help Parliament in performance of these two functions in the following manner

Role of Parliamentary Committees in Law making

Given the volume of legislative business, discussing all Bills under the consideration of Parliament in detail on the floor of the House is impossible

So PSCs are platforms for such discussion on a proposed law

PSC meetings are '**closed door**' and members are not bound by party whips which allows them the room for a **more meaningful exchange of views**

A smaller body of lawmakers, from **various parties** and **expertise** could have more open, intensive and better informed discussions

Role of Parliamentary Committees in making Executive accountable to Legislature

Executive accountability to the legislature is enforced through questions in Parliament also, which are answered by ministers

However, department standing committees go one step further and hear from senior officials of the government in a closed setting, allowing for more detailed discussions

This mechanism also enables parliamentarians to understand the executive processes closely

Committee reports are usually exhaustive and **provide authentic information** on matters related to governance

Bills that are referred to committees are returned to the House with **significant value addition**

However, Parliament is **not bound** by the recommendations of committees

If the government bypasses the committees, they might get a legislation due to their numerical strength - passed quickly - but **this legislation will lack efficacy** in the troubled times

The need of the hour is for **greater and effective utilization of Parliamentary Committees** to strengthen Parliament as a deliberative body which can ensure effective oversight

Strengthening the committee system can go a long way in **improving the quality of laws drafted and minimize potential implementation challenges**

SECTION: B
(PRELIMS)

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BIO FUEL

◎ CONTEXT:

- A Nano carbon catalyst developed by IIT-Hyderabad can be used to convert corn cob waste into valuable fuels.

◎ ABOUT:

- Any fuel that is derived from biomass—that is, plant or algae material or animal waste.
- Feedstock material can be replenished readily, bio fuel is considered to be a source of renewable energy, unlike fossil fuels such as petroleum, coal, and natural gas.
- Bio fuel is commonly advocated as a cost-effective and environmentally benign alternative to petroleum and other fossil fuels
- The term bio fuel is usually used to reference liquid fuels, such as ethanol and biodiesel
- Bio fuels can also include solid fuels like wood pellets and biogas or syngas

Bio fuels

- **Jatropha:** Jatropha curcas is multipurpose non edible oil yielding perennial shrub. This is a hardy and drought tolerant crop can be raised in marginal lands with lesser input.
- **Sugarbeet:** Sugar beet is a biennial sugar producing tuber crop, grown in temperate countries. Now tropical sugar beet varieties are gaining momentum in tropical and sub tropical countries, as a promising alternative energy crop for the production of ethanol.
- **Sorghum:** Sorghum is the most important millet crop occupying largest area among the cereals next to rice. It is mainly grown for its grain and fodder. Alternative uses of sorghum include commercial utilization of grain in food industry and utilization of stalk for the production of value-added products like ethanol, syrup and jaggery and bio enriched bagasse as a fodder and as a base material for cogeneration.
- **Pongamia:** There is several non edible oil yielding trees that can be grown to produce bio fuel. Karanja is one of the most suitable trees. It is widely grown in various parts of the country.

Categories of bio fuels

- **First generation bio fuels** - First-generation bio fuels are made from sugar, starch, vegetable oil, or animal fats using conventional technology. Common first-generation bio fuels include Bio alcohols, Biodiesel, Vegetable oil, Bio ethers, Biogas.
- **Second generation bio fuels** - These are produced from non-food crops, such as cellulosic bio fuels and waste biomass (stalks of wheat and corn, and wood). Examples include advanced bio fuels like bio hydrogen, bio methanol.
- **Third generation bio fuels** - These are produced from micro-organisms like algae.
- **Fourth Generation Bio fuels** - Four Generation Bio-fuels are aimed at not only producing sustainable energy but also a way of capturing and storing co₂. Biomass materials, which have absorbed co₂ while growing, are converted into fuel using the same processes as second generation bio fuels. This process differs from second and third generation production as at all stages of production the carbon dioxide is captured using processes such as oxy-fuel combustion. This system not only captures and stores carbon dioxide from the atmosphere but it also reduces co₂ emissions by replacing fossil fuels.

Advantages

- **Cost:** Bio fuels prices have been falling and have the potential to be significantly less expensive than gasoline and other fossil fuels. In fact, ethanol is already cheaper than diesel and gasoline. This is particularly true as worldwide demand for oil increases, oil supplies dwindle, and more sources of bio fuels become apparent.
- **Source material:** Whereas oil is a limited resource that comes from specific materials, bio fuels can be manufactured from a wide range of materials including crop waste, manure, and other by-products. This makes it an efficient step in recycling.

- **Renewability:** It takes a very long time for fossil fuels to be produced, but bio fuels are much more easily renewable as new crops are grown and waste material is collected.
- **Security:** Bio fuels can be produced locally, which decreases the nation's dependence upon foreign energy. By reducing dependence on foreign fuel sources, countries can protect the integrity of their energy resources and make them safe from outside influences.
- **Economic stimulation:** Because bio fuels are produced locally, bio fuel manufacturing plants can employ hundreds or thousands of workers, creating new jobs in rural areas. Bio fuel production will also increase the demand for suitable bio fuel crops, providing economic stimulation to the agriculture industry.
- **Lower carbon emissions:** When bio fuels are burned, they produce significantly less carbon output and fewer toxins, making them a safer alternative to preserve atmospheric quality and lower air pollution.

Disadvantages

- **Energy output:** Bio fuels have a lower energy output than traditional fuels and therefore require greater quantities to be consumed in order to produce the same energy level. This has led some noted energy analysts to believe that bio fuels are not worth the work to convert them to ethanol rather than electricity.
- **Production carbon emissions:** Several studies have been conducted to analyze the carbon footprint of bio fuels, and while they be cleaner to burn there are strong indications that the process to produce the fuel - including the machinery necessary to cultivate the crops and the plants to produce the fuel - has hefty carbon emissions. In addition, cutting forests to grow crops for bio fuels adds to carbon emissions.
- **High cost:** To refine bio fuels to more efficient energy outputs, and to build the necessary manufacturing plants to increase bio fuel quantities, a high initial investment is often required, making its production currently more expensive than other ways to fuel cars, even though this could change in the future.
- **Food prices:** As demand for food crops such as corn grows for bio fuel production, it raises prices for necessary staple food crops.
- **Food shortages:** There is concern that using valuable cropland to grow fuel crops could have an impact on the cost of food and could possibly lead to food shortages.
- **Water use:** Massive quantities of water are required for proper irrigation of bio fuel crops as well as to manufacture the fuel, which could strain local and regional water resources.

TIGER CENSUS

◎ CONTEXT:

- Prime Minister on Monday released the All India Tiger Estimation Report 2018

◎ ABOUT:

- India has 2,967 tigers, a third more than in 2014, according to results of a tiger census
- This gargantuan exercise is been conducted once in four years.
- Madhya Pradesh saw the highest number of tigers, closely followed by Karnataka and Uttarakhand.
- Chhattisgarh and Mizoram saw a decline in tiger population and all other States saw a "positive" increase.
- This gargantuan exercise is been conducted once in four years.
- Pench Tiger Reserve in Madhya Pradesh recorded the highest number of tigers; Sathyamangalam Tiger Reserve in Tamil Nadu registered the "maximum improvement."
- India accounts for many of the 3,500-odd tigers that are scattered among Bangladesh, Bhutan, Cambodia, China, Indonesia, Laos PDR, Malaysia, Myanmar, Nepal, Russian Federation, Thailand and Vietnam.

VARIOUS METHODS USED FOR COUNTING TIGERS

- **Pug Mark Method:** In this method, the foot print of the tiger is important. It is considered that each pug mark is unique in itself & by analyzing various foot prints in the areas of tigers, the number of tigers in that area can be counted.
- **Camera Trap:** In this various method, cameras are installed in the tiger areas having night vision facility as well. By recording various tigers in the camera, the number of tigers can be estimated.
- **Poop/scat Method:** In this method the number of tigers is counted by poop/scat. The poop is analyzed by DNA sampling and then we can arrive at a more accurate count.
- **Radio Collar Method:** Tigers are captured in this method & are fitted with a radio collar. In this way the tigers can be counted.

Criticism

- The Camera Trap estimation of tiger numbers in source populations, in tiger reserves was poorly done which was a violation of capture-recapture modeling.
- The estimated of prey species densities from line transects were poorly done which is against the current practices.
- The complicated, 'double-sampling' based regression model is somewhat flawed and obsolete approach.
- Their statistical methodology of relying on calibrations and regressions based on track and dung surveys to generate wider estimate tiger numbers in wider landscapes was also deeply flawed.
- Based on Enumerators Subjective Ability to Identify Individual Tigers from Pugmarks.
- Variation in Pugmarks with substratum, gait, and observers recording skills
- Not possible to obtain Pugmarks from all Tiger Occupied Landscapes.
- Camera trap method becomes useless in areas having salty waters. It damages the camera.
- Not always that someone will get the poop of all the tigers in an area.
- In Radio Collar Method the method fails when the concerned tiger enters the salty water.

Measures to improve tiger conservation efforts in the country

- Protect tigers and their habitat.
- Build capacity in range states.
- Reduce human-tiger conflict.
- Conduct scientific research on tigers to help inform conservation strategies.
- Promote tiger-friendly policies.
- Monitor tiger numbers, population trends, and threats to tigers and their habitats.
- To build more tiger reserves in India
- To enforce complete ban on poaching.

TESLA-STYLE GIGA FACTORIES

◎ CONTEXT:

- India is planning for \$4 billion Tesla-scale battery storage plants to expedite India's battery storage revolution.

◎ ABOUT:

More on news:

- India is planning to build at least four Tesla-style giga factories to manufacture batteries with an investment of around \$4 billion to switch to electric vehicles to curb pollution and reduce the dependence on foreign oil.

- According to **NITI Aayog**, India will need 6 such gigawatt-scale facilities (of 10 GWh each) by 2025 and 12 by 2030 but it does not include the export market potential. Hence, the base scenario envisions 11 factories by 2025 and 24 by 2030.
- On the demand creation side, the plan involves providing tax credits at the retail level and state-level grants to promote usage of electric vehicles.
- Union budget of 2019-20 also announced tax breaks for setting up mega-manufacturing plants for solar photovoltaic cells, lithium storage batteries and solar electric charging infrastructure.

India's Renewable Energy

- India has become one of the top renewable energy producers globally.
- It has a capacity of about 80 gigawatts (GW) and is running the world's largest renewable energy programme, with plans to achieve 175GW by 2022 and 500GW by 2030, as part of its **climate commitments**.
- It is the world's third-largest oil consumer. Hence, its imports are more than 80% of its oil requirements and around 18% of its natural gas.
- Currently, there are no indigenous battery manufacturers in India. Almost all of the electric lithium-ion batteries are imported from China.
- The upcoming four Tesla-inspired Gigafactories in India seek to address that problem.

Significance of this plan

- **Demand Side:** Factories are set up to secure India's energy needs directed by NITI Aayog and it aims to accomplish what Tesla has done at its Gigafactory in Nevada, USA.
- **Consumer needs:** This plan aims to fulfil the needs of **consumer's electronics industry** and **electricity grids** apart from Electronic Vehicles.
- **Self-Sufficient:** This step will reduce India's dependence on foreign oil.
- **Electric vehicle:** This plan will enable India to develop an **electric vehicle ecosystem** including manufacturing and R&D.
- **Environment:** It aims to achieve clean energy targets and the irregular nature of electricity from clean energy sources such as solar and wind.

Support extended by the Indian government

- Government may offer a number of incentives to manufacturers such as concessional **financing options** with around 3% foreign exchange hedge on overseas loans and a fixed 3% interest subvention on loans availed in Indian rupees.
- In addition, a reduction in **minimum alternative tax (MAT)** may be offered.
- Another support includes an **investment-linked tax incentive**.
- It may also offer an output-linked **subsidy** on kilowatt hour (KWh) of sold cells.

Global Performance

- **USA** provided a R&D capital support of \$2.4 billion of grants for battery manufacturing under **American Recovery and Reinvestment Act (ARRA)** in 2009; it also included a \$1.5 billion in grant to develop a domestic battery supply chain.
- States such as South Carolina, Georgia and Michigan have also given tax breaks for setting up battery manufacturing.
- **Europe** has been at the forefront of promoting battery manufacturing with the European Union Battery Alliance planning with the goal of opening production sites in France and Germany.
- There is also concessional finance with funds from European fund for strategic investments (EFSI) set up by European Investment Bank (EIB) for setting up such gigascale factories.

ZERO BUDGET NATURAL FARMING (ZBNF)

◎ CONTEXT:

- In the recent Union Budget of 2019, ZBNF model has been emphasised, which can help in doubling farmers' income. Andhra Pradesh and Himachal Pradesh have been shifted towards this model.

◎ ABOUT:

What is ZBNF?

- It is a method of **chemical-free agriculture** drawing from traditional Indian practices.
- Using cowdung, urine based formulations and botanical extracts would help farmers in reducing the input cost.
- Intercropping with leguminous crops** is one of the components of ZBNF and it improves the crop productivity and soil fertility by way of fixing the atmospheric nitrogen.
- It promotes soil aeration, minimal watering, intercropping, bunds and topsoil mulching and discourages intensive irrigation and deep ploughing.

Background

- It was developed by **SubhashPalekar** from Maharashtra in the mid-1990s as an alternative to the Green Revolution's methods, which led to indebtedness and suicide among farmers due to rising cost on external inputs in agriculture.
- During this revolution, impact of chemicals on the environment and on long-term fertility was also very devastating.
- ZBNF would break the debt cycle for many small farmers.

Components of ZBNF

- Jeevamrutha**: It is a fermented **microbial culture** that uses urine and dung from an indigenous cow breed and paste of green gram to rejuvenate the soil to **provide micro-nutrients to crops**.
- Bijamrita**: It is a treatment used for seeds, seedlings or any planting material.
- Acchadana**: It promotes mulching and soil aeration for favourable soil conditions.
- Whapasa**: It provides moisture to the soil.

Why does it matter?

- According to **National Sample Survey Office (NSSO)** data, almost 70% of agricultural households spend more than they earn and more than half of all farmers are in debt.
- In States such as **Andhra Pradesh** and **Telangana**, levels of indebtedness are around 90%, where each household bears an average debt of ₹ 1 lakh.

Role of Indian States

- ZBNF was adopted by Karnataka as a movement by **Karnataka Rajya Raitha Sangha**.
- Andhra Pradesh became India's first State to practise 100% natural farming by 2024. It aims to phase out chemical farming over 80 lakh hectares of land, converting the State's 60 lakh farmers to ZBNF methods.
- Himachal Pradesh, Chhattisgarh, Kerala, Karnataka and Uttarakhand are also planning to adopt ZBNF.

Budget Allocation

- Norms to promote organic farming and soil health**: Government has revised the norms for the **Rashtriya Krishi Vikas Yojana** and the **Paramparagat Krishi Vikas Yojana**, which has an allocation of ₹ 3,745 crore and ₹ 325 crore respectively this year.

- **Role of state:** Centre allow States to use their funds to promote the ZBNF, vedic farming, natural farming, cow farming and a host of other traditional methods.

Way Forward

- **Multi-location studies** are needed to scientifically validate the long-term impact and viability of the model before it can be scaled up and promoted country-wide.
- An enabling **institutional mechanism** could be set up to promote the technology.
- There is a need to enhance **public funding support**.

INDIA-SOUTH KOREA

◎ CONTEXT:

- Prime Minister Narendra Modi met South Korean President Moon Jae-in on the sidelines of the G20 summit in Osaka. Both agreed to find common ground between Seoul's 'New Southern Policy' and New Delhi's 'Act East Policy'.

◎ ABOUT:

- South Korean President's "New Southern Policy" (NSP) attached primacy to strengthening the country's economic and strategic relations with India, as well as the countries of Southeast Asia.
- It is the first time that South Korea has clearly designed a foreign policy initiative for India and officially documented it.
- It is an unprecedented move that highlights his government's desire to shape a new paradigm in Seoul-New Delhi relations.
- The South Korean government has also adopted an action-oriented approach to upgrade its engagement with India. For example, it has set up a state-run research centre on India and the ASEAN countries under the Korea National Diplomatic Academy (KNDA), which is tasked with laying a theoretical foundation for the Moon administration's policy vision to diversify its strategic partnerships across Asia.

Pivot to India

- The South Korean companies in India, such as Samsung, LG Electronics and Hyundai Motor, are undertaking expansion activities.
- Several new South Korean companies are also entering India. For instance, Kia Motors has signed a MoU to invest about US\$ 1.1 billion, which was later enhanced to US\$ 2 billion, to build its first factory in Andhra Pradesh.
- Seoul is also pushing its small and middle-scale companies to enter India in view of tough challenges they are facing in China.
- They have recently shown its willingness to partner with India's flagship initiatives such as 'Make in India', 'Skill India', 'Digital India', 'Start-up India' and 'Smart Cities Mission'.
- Other measures being include setting up a New Trade Order Strategy Office, as well as pushing the conclusion of the emerging regional trade mechanism called Regional Comprehensive Economic Partnership (RCEP) agreement in which India is a member.
- Korean administration has decided to establish the Korea-India Future Strategy Group and the India-Korea Centre for Research and Innovation Cooperation (IKCRI). The latter is expected to provide an institutional framework for cooperation based on research, innovation and entrepreneurship
- 'Korea Plus' mechanism under the Department of Industrial Policy & Promotion (DIPP) to boost the presence of South Korean companies in India.
- Various events and campaigns have been organised to create awareness amongst the Korean firms. India is receiving numerous business proposals, that it now plans to upgrade the 'Korea Plus' initiative into a 'Korea Square' mechanism.

Deepening Strategic Partnership

- Korea has stressed that India was now his country's "key partner" in the region and

that India should be treated as a major power. India also looks at South Korea as an indispensable partner in its Act East Policy (AEP).

- The two countries are now working towards a new diplomatic mechanism in the 2+2 format. Once it is operationalised, South Korea would become the third country to hold such a dialogue with India, after Japan and the United States.
- Several new initiatives are being taken to foster closer people-to-people ties through youth exchange programmes, internships, and facilitation of tourism and business through simplified visa procedures.
- South Korea has demonstrated its desire to cooperate with India to secure the sea lines of communication (SLOCs) in the Indian Ocean.
- The navies of the two countries have held a joint drill in the Indian Ocean with a fleet of South Korean warships visiting India. This was followed by a joint exercise between the coast guards of the two countries.
- South Korea is exploring ways to become a part of the Indo-Pacific construct.
- As a member of the Nuclear Suppliers Group (NSG), South Korea has supported India's bid for membership.
- Co-production of the K9 Thunder howitzer is a prime example of the ongoing defence collaboration.

Challenges and Way forward

- Trade volume is very low and no efforts are been taken for that. The CEPA is core mechanism of economic ties and to achieve the target it needs to be immediately upgraded.
- The Indian Cultural has failed to reach out to South Korean's. There is lack of people to people contact which triggers this issue.
- Despite the Special Strategic Partnership between South Korea and India there remains scope for expansion of bilateral relations in the strategic sphere.
- India-South Korea relations has been mostly dominated by economic relations.

ARTICLE 35 A

◎ CONTEXT:

- Union home ministry decided to move in 10,000 additional troops to Kashmir, which has amplified apprehensions on the ground about the removal of the Article 35A and Article 370, the two constitutional provisions that give the state its distinct identity within the Union of India.

◎ ABOUT:

What is Article 35A?

- It is a Constitutional provision, which strengthened J&K Legislature to decide who all are '**permanent residents**' of the State.
- It also confers on them special rights and privileges in public sector jobs, acquisition of property in the State, scholarships and other public aid and welfare.

Background

- Article 35A was incorporated through a **Presidential Order**, the Constitution (Application to J&K) Order of 1954. Therefore, it was added without undergoing the procedure for constitutional amendments as laid down in **Article 368**.
- The Presidential Order was issued in exercise of the power conferred under Article 370 (1) (d) of the Constitution. Whether such power also extends to inserting a new Article in the Constitution is contentious.
- The 'classification' created by this article has to be tested on the principle of equality as it treats non-permanent residents of J&K as '**second-class**' citizens.

- Such persons are not eligible for employment under the State government and are also debarred from contesting elections.

Arguments in support of 35A

- **Maintains unity of J&K:** This article safeguards the uniqueness of the J&K. Even other states like **Himachal Pradesh** and **Uttarakhand** also have the laws in which no outsider from the state can buy a land.
- **Striking down Article 35A:** It will have various consequences on other constitutional amendments contained in the 1954 Presidential Order. And this can erode the autonomy of J&K.
- **Demography of J&K:** Scrapping Article 35A would allow people from outside J&K to settle in the state and acquire land and property, and the right to vote, thus altering the demography of the state.
- **Other Presidential Orders:** If the article 35A is scrapped, other Presidential orders may then become susceptible to legal challenges.
- **Federalism:** Scrapping Article 35A would violate Article 370 as well as the instrument of accession. The Indian constitution purposefully mandates differential treatments for different units of the Indian Union.
- **North-Eastern states:** The removal of Article 35A would also indirectly impact the special provision bestowed upon Mizoram, Nagaland etc. under Article 371.

Issues Related to Article 35A

- **Bypasses Article 368:** The parliamentary route of law-making was bypassed under the Article 368 (i) when the President incorporated Article 35A into the Constitution. This article empowers only Parliament to amend the Constitution.
- **Against Unity:** Article 35 A is against the "very spirit of oneness of India" as it creates a "class within a class of Indian citizens". As this article restricts citizens from other States from getting employment or buying property within Jammu and Kashmir is a violation of fundamental rights under Articles 14, 19 and 21 of the Constitution.
- **Right to Unity:** Article 35A protects certain provisions of the Jammu and Kashmir Constitution, which restrict the basic right to property if a native woman marries a man not holding a permanent resident certificate. Her children are denied a permanent resident certificate, thereby considering them illegitimate.
- **Deny of opportunity:** Meritorious students are denied scholarships and they cannot even seek redress in any court of law.
- **Rights of Pakistani Refugees:** This article undermines the rights of West Pakistan refugees. Persons who migrated from Pakistan to India in 1947 have been denied the permanent resident status of J&K.
- **Promotes Separatism:** This article has catalysed in radicalization and ghettoization and aids separatist ideology.
- **Human Rights:** It grossly undermines the well-being of Pakistani Refugees and Indian Citizens outside of the state. It also undermines their faith in the goodness of India as well as its impartial judicial system.
- **Hampers Growth:** Article 35A also adversely affects the economic development of the state.

Way Ahead

- This matter requires the active participation of all stakeholders. It is necessary to give confidence to the residents of J&K that any alteration in status quo will not take away their rights but will boost J&K's prosperity as it will open doors for more investment, resulting in new opportunities.
- Political parties should refrain from inflaming popular passions on these sensitive issues.
- There is a need to adopt a humane approach as far as solving the problems of permanent residence certificate faced by West Pakistan refugees.

ELECTRONICALLY TRANSMITTED POSTAL BALLOT SYSTEM (ETPBS)

◎ CONTEXT:

- ETPBS recorded 60.14% turnout in 2019.

◎ ABOUT:

More on news:

- In 2019 elections, a record highest number of 18,02,646 were enrolled as Service Electors as compared to 13,27,627 number of registered Service Electors in 2014.
- In the seven phases of elections, a total of 18,02,646 postal ballots were dispatched electronically using the flagship IT programme – ETPBS of Election Commission of India.
- In return 10,84,266 e-postal ballots were received indicating 60.14% turnout.

About ETPBS

- ETPBS is a **flagship programme of Election Commission of India (ECI)** developed with the help of **Centre for Development of Advanced Computing (C-DAC)**.
- By this, the service voters were sent postal ballots electronically in a one way to save processing time, resources and avoid human errors.

How ETPBS works?

- Under this system a blank postal ballot paper is transmitted to service voters electronically. Then they can download the postal ballot and print the blank postal ballot.
- After marking his vote in the blank postal ballot, the same would be returned to the concerned **Returning Officer** by post as in the present system of postal ballot.
- It is a fully secured system, having two security layers. Secrecy of voting is maintained through the use of OTP and PIN and no duplication of casted ETPB is possible due to the unique QR Code in the portal.
- It was first used in a by-election in the Nellithope Assembly constituency in Puducherry in 2016 and on pilot basis in the State during the Chengannurbypoll.
- The pilot and trials were carried out in U.P., Punjab, Uttarakhand, Goa and Manipur Assembly elections.

Class of Electors who are eligible for ETPBS

- Service Voters, other than those who opt for proxy voting (Classified Service Voters)
- The wife of a Service Voter who ordinarily resides with him
- Overseas Voters

Features

- Service voters can avail this service from anywhere outside their constituency.
- System facilitates creation of service voter electoral roll data.
- Easy, Efficient and Hassle free
- It is a secure system, having two layer security
- OTP is required to download encrypted Electronically Transmitted Postal Ballot file.
- PIN is required to decrypt, print and deliver ETPB.

Significance of ETPBS

- Right to Vote:** With the motto of “**no voter to be left behind**”, it has empowered and ensured all eligible service electors with their constitutional power to vote while performing their duty for the nation.

- The armed forces personnel serving in remote and border areas would be greatly benefitted since the present system of two-way transmission of ballot paper by the postal services has not been able to meet the expectations of the service voters.
- **No delay:** This would cut short the delay experienced in the present system in two-way transmission of ballot paper by the postal services.

Who are service voters?

- In cases of close contests, service voters play crucial and decisive role.
- Service voter are those who have service qualification. They include member of Armed Forces of the Union of India, members of Armed Police forces of the States serving outside that state and persons employed under Government of India on posts outside India.
- As per existing arrangements, members of India Army, Navy and Air force, Boarder Road Organisation, BSF, ITBP, Assam Rifles, NSG, CRPF, CISF and SSB are eligible to be registered as service voters.
- A Service Voter can cast his/her vote by proxy also. They may appoint (By applying to returning officer in Form 13 F available at the website of ECI) any person as his/her proxy to cast vote on his/her behalf in his/her at the polling station.
- Proxy should be a registered voter of that constituency.

'STRENGTH OF SUPREME COURT JUDGES'

◎ CONTEXT:

- Cabinet has approved increasing strength of Supreme Court judges from 31 to 34. It will require amendments in Supreme Court (Number of Judges) Act.

◎ ABOUT:**Need of amendment**

- Lots of cases are pending in the Supreme Court.
- More judges needed to run court more efficiently and effectively.
- To keep pace with the rate of institution by expediting disposal of cases.
- **5-judge Constitution benches** for **substantial questions of law** as to the **interpretation of the Constitution** were not being formed due to paucity of judges.

Constitutional Provisions

The Supreme Court of India was inaugurated on January 28, 1950. It succeeded the Federal Court of India, **established under the Government of India Act of 1935.**

Organisation of Supreme Court

- **Originally the Supreme Court (Number of Judges) Act, 1956** provided for a **maximum of 10 judges** (excluding the CJI).
- The Parliament then increased this number progressively to 13 in 1960, 17 in 1977 and 26 in 1988.
- **Supreme Court (Number of Judges) Amendment Act, 2009** further augmented the strength of the court to **31, including the CJI**, which is the **current strength**.

Appointment of Judges

The Chief Justice of India and the Judges of the Supreme Court **are appointed by the President under Article 124 of the Constitution.**

- The judges of the Supreme Court are **appointed by the president**.
- The **chief justice** is appointed by the president after consultation with **such judges of the Supreme Court and high courts as he deems necessary.**

- The other judges are appointed by president after consultation with the chief justice and such other judges of the Supreme Court and the high courts as he deems necessary.

Qualifications of Judges

A person to be appointed as a judge of the Supreme Court should have the following qualifications:

- He should be a **citizen of India**.
- (a) He should have been a **judge of a High Court (or high courts in succession) for 5 years**; or (b) He should have **been an advocate of a High Court (or High Courts in succession) for 10 years**; or (c) He should be a **distinguished jurist** in the opinion of the president.

ESSENTIAL MEDICINES

◎ CONTEXT:

- An expert committee set up in 2018 to update India's latest list of essential medicines has called on industry and civil society bodies for discussions before it finalises drugs to be included in it.

◎ ABOUT:

More on news:

- **The Standing National Committee on Medicines (SNCM)** has called pharmaceutical associations, companies and patient groups to conduct its "first" stakeholder's consultation on the existing **National List of Essential Medicines (NLEM)**.

Issues of discussion

- Issues of AMR (Antimicrobial resistance) and inclusion and deletion of drugs in the latest NLEM.
- Inputs on cancer and cardiology medicines that should be a part of the new list.
- Discussion on the addition of penicillin preparations, which some stakeholders say may be a point of contention as Indian drug makers are highly dependent on Chinese firms for the raw ingredients of such formulations and that the costs of these ingredients have been on the rise.

Background of the consultations

- They follow changes to the format of the World Health Organisation's (WHO) global model list of essential medicines.
- WHO has recently revised its guidance on essential medicines adding 12 ground-breaking medicines for five cancer therapies to treat melanoma, lung, blood and prostate cancers.
- It has also added new oral anticoagulants to prevent stroke.
- Besides, the UN agency has strengthened its advice on antibiotics to use for the most common and serious infections to achieve better treatment outcomes and reduce the risk of antimicrobial resistance.
- It has recommended three new antibiotics for the treatment of multi-drug resistant infections is added as essential.

Significance

- **Evaluation:** The idea behind the stakeholder consultation is to evaluate the WHO list in the Indian context by determining the "**essentiality**" and "**affordability**" factors of these medicines.
- **Inclusion:** This includes inclusions of expensive new cancer and cardiovascular drugs as well as categorizing antibiotics—those with wide application and low potential to add

to AMR (Access), those with higher resistance potential requiring limited access (Watch) and those to be used as a last resort option against multi-drug resistant bacteria (Reserve).

Way Ahead

- India would have no choice but to also look into the issue (of the highly priced cancer drugs in WHO's list) to see which ones would be needed here.
- The list also needs to look at including more medical devices to ensure their affordability.
- Following this, the **National Pharmaceutical Pricing Authority (NPPA)**, India's drug pricing watchdog, caps the ceiling prices of these medicines.
- Once a drug is included in India's NLEM, the **Department of Pharmaceuticals** will notify it under Schedule I of the Drug (Prices Control) Order, 2013, for price control.

What is an Essential Medicine?

- According to WHO, Essential medicines are the medicines that "satisfy the priority health care needs of the population".
- People should have access to these medicines at all times in sufficient amounts. The prices should be at generally affordable levels.

NLEM

- It is a list of medicines prepared by the **Ministry of Health and Family Welfare** based on essentiality and made part of the **Drugs Price Control Orders (DPCO)**, 2013 (DPCO 2013) in the form of first Schedule of the DPCO 2013.
- It is one of the key instruments in healthcare delivery system of a country which inter alia includes accessible, affordable quality medicine at all the primary, secondary, tertiary levels of healthcare.
- The primary purpose of NLEM is to promote rational use of medicines considering the three important aspects i.e. cost, safety and efficacy.
- Furthermore it promotes prescription by generic names. The list serves as a reference document for correct dosage form and strength for prescribing.
- NLEM of India was prepared and released in 1996. This list was subsequently revised in 2003, 2011 and 2015.

'PM AWAS YOJANA AND PRAGATI PLATFORM'

◎ CONTEXT:

- Prime Minister reviewed the progress of Pradhan Mantri Awas Yojana (Urban) scheme under PRAGATI meeting and directed officials to work towards the goal of ensuring "Housing for All" by 2022.

◎ ABOUT:

PRADHAN MANTRI AWAS YOJANA (URBAN) – PMAY (U) - Housing for All (HFA)

The Mission will be implemented **during 2015-2022** and will provide **central assistance** to **Urban Local Bodies (ULBs)** and other implementing agencies through States/UTs for:

- **In-situ Rehabilitation** of existing slum dwellers using land as a resource through private participation
- **Credit Linked Subsidy**
- **Affordable Housing** in Partnership with public and private sectors
- Subsidy for **Beneficiary-led individual** house construction/enhancement.

Credit linked subsidy component will be implemented as a **Central Sector Scheme** while other three components will be implemented as Centrally Sponsored Scheme (CSS).

PRADHAN MANTRI AWAS YOJANA (RURAL) – PMAY (Gramin) - Housing for All (HFA)

This scheme serves to provide housing facilities to the rural, deprived, poor people living in underdeveloped villages in India.

- It proposes to provide an environmentally safe and secure pucca house to every rural household by 2022.
- A minimum support of **nearly Rs. 1.5 lakh to Rs. 1.6 lakh** to a household is available.
- A provision of Bank loan **upto Rs. 70,000/-** is available if the beneficiary desires.
- Beneficiaries have been selected through a completely transparent process using the Socio **Economic Census 2011 data**.
- It provides for **skilling Rural Masons** and **allowing different housing designs** across the country based on a detailed study of housing typologies, environmental hazards and the households' requirements.
- **A large scale use of local materials** is envisaged along with a complete home with cooking space, electricity provision, LPG, toilet and bathing area, drinking water etc. through convergence.
- It targets the poor households and **uses ICT and space technology** to further confirm correct selection of beneficiaries.

PRAGATI: a multi-purpose, multi-modal platform for Pro-Active Governance and Timely Implementation

- It is a unique integrating and interactive platform.
- It is aimed at addressing common man's grievances and thus provides a **grievance redressed mechanism**.
- It simultaneously **monitors and reviews important programmes** and projects of the Government of India as well as projects flagged by State Governments.
- It uniquely bundles **three** latest technologies: **Digital data management, video-conferencing and geo-spatial technology**.
- It also offers a unique combination in the direction **of cooperative federalism** since it brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States.

3D PRINTED PILL

◎ **CONTEXT:**

- New ingestible, 3D printed pill can analyse gut microbiome.

◎ **ABOUT:**

More on news:

- Researchers have developed an ingestible 3D printed pill, which can non-invasively assess gut bacteria throughout the gastrointestinal (GI) tract.
- This biocompatible pill is manufactured in a **3D printer** with **microfluidic channels**.
- It can easily sample different stages of the GI tract, which was till now impossible to track non-invasively.
- Current method is based on the use of DNA sequencing techniques to analyse bacteria found in the gut known as the **microbiome** (The gut microbiome is comprised of the collective genome of microbes inhabiting the gut including bacteria, archaea, viruses, and fungi).

Highlights of a research

- The pill has been primarily tested in pigs and on primates, which showed that it can accurately conduct in vivo sampling of the gut lumen and its microbiome that is upstream of the colon.
- It can also aid in the diagnosis and treatment of conditions affected by the microbiome.

Significance

- The pill will improve our understanding of the role of spatial distribution in the microbiome profile to advance treatments and therapies for a number of diseases and conditions.

Profile of the pill

- The pill has a pH sensitive coating, which dissolves once it enters the small intestine (bypassing the stomach).
- It consists of two chambers that are separated by a semi-permeable membrane.
- One chamber contains helical channels, while the other is filled with calcium and salt. The salt chamber creates an osmotic flow across the membrane, which then pulls the bacteria into the helical channels.
- The pill also carries a small magnet. Using a magnet outside the body, the researchers can also get a spatial diversity of the gut micro biome.
- The design of this device makes it incredibly easy to use, posing little risk to the subject being measured, yet providing so much information.
- Compared to other non-invasive diagnostic devices, this is like having an EKG (electrocardiogram) for gut health.

5G DEBATE

◎ CONTEXT:

- The Union Communications Minister announced that the government will be holding auction for spectrum, which includes airwaves that will be used to offer 5G or fifth-generation services.

◎ ABOUT:

Timeline: Evolution from 1G to 5G

- **1G:** Launched in the 1980s. Analog radio signals and supported only voice calls.
- **2G:** Launched in the 1990s. Uses digital radio signals and supported both voice and data transmission with a BandWidth(BW) of 64 Kbps.
- **3G:** Launched in the 2000s. With a speed of 1 Mbps to 2 Mbps it has the ability to transmit telephone signal including digitised voice, video calls and conferencing.
- **4G:** With a peak speed of 100 Mbps-1 Gbps it also enables 3D virtual reality.
- **5G:** with a speed of more than 1Gbps, it is capable of connecting entire world without limits.

5th Generation

- 5G is the next generation cellular technology that will provide faster and more reliable communication with ultra low latency.
- A government panel report points out that with 5G, the peak network data speeds are expected to be in the range of **2-20 Gigabit per second (Gbps)**.
- This is in contrast to 4G link speeds in averaging **6-7 Megabit per second (Mbps)** in India as compared to 25 Mbps in advanced countries.
- In April, South Korea and the U.S. became the first countries to commercially launch 5G

services.

Benefits of 5G

- **Faster Download:** With 5G technology, consumers will be able to download data heavy content such as 8K movies and games with better graphics in just a few seconds.
- **Emerging Technologies:** The ultra low latency offered by 5G makes the technology desirable for emerging technologies, including driverless vehicles, tele-surgery and real time data analytics, sensor-embedded network that will allow real time relay of information across fields such as manufacturing, consumer durables and agriculture.
- **Transport:** 5G can also help to make transport infrastructure more efficient by making it smart because it will enable vehicle-to-vehicle and vehicle-to-infrastructure communication. Thus, making driverless cars, a reality.
- **Economic Impact:** 5G is expected to create a cumulative economic impact of \$1 trillion in India by 2035, according to a report by a government-appointed panel. Moreover, 5G-enabled digitalisation revenue potential in India will be above \$27 billion by 2026. Spectrum auctions are a major revenue earner for the government. In the last auction, held in October 2016, it fetched the government over ₹65,000 crore.

Challenges

- **Cost Factor:** Telecom Regulatory Authority of India has recommended a pan-India reserve price of about ₹492 crore per MHz for unpaired spectrum. But, Telcos have pointed out that the reserve price of these airwaves is very high. Moreover, Cellular Operators Association of India (COAI) has also expressed concerns about the financial health of the sector amid intense competition and recent phase of consolidation. Currently, the industry's cumulative debt is pegged at around ₹7 lakh crore.
- **Infrastructural Issues:** The first major challenge is that the users will be required to change their current devices in favour of 5G-enabled ones. Another challenge is that these new frequencies offer huge potential in regard to capacity, but the use of these frequencies is challenging due to limited propagation and penetration. Also, there are currently no India-specific use cases for deployment of 5G.
- **Cyber Security:** In the 5G world, cybersecurity challenges and risks will continue to grow as more data pours in and is processed faster than ever before. It is evident by the recently recorded data breaches of 2017 and 2018, as well as the predictions of advanced forms of breaches for 2019.
- **Technical Issues:** There is no unified, rigorously defined standard to guarantee interoperability, nor a methodology to assure continuous and consistent performance.

Steps Taken

- The government launched a three-year programme that started in March 2018 to advance innovation and research in 5G with a budget of ₹224 crore.
- Ericsson has also installed a 5G test bed at IIT Delhi for developing applications in the broadband and low latency areas

Cellular Operators Association of India (COAI)

- COAI was constituted in 1995 as a registered, **non-governmental society**. The Association is dedicated to the advancement of modern communication through the establishment of world-class mobile infrastructure, products and services and to delivering the benefits of innovative and affordable mobile communication services to the people of India.
- Over the years COAI has emerged as the official voice for the Indian telecom industry and interacts directly with Ministries, Policy Makers, Regulators, Financial Institutions and Technical Bodies. It provides a forum for discussion and exchange of ideas between these bodies and the Service Providers, who share a common interest in the development of mobile telephony in the country.

- COAI's core membership includes private cellular operators, namely - Aircel Ltd., Bharti Airtel Ltd., Idea Cellular Ltd., Reliance Jio Infocomm Limited, Telenor (India) Communications Private Limited, Videocon Telecom and Vodafone India Ltd. operating across the whole country.

E-CIGARETTES

◎ **CONTEXT:**

- **The government's proposal to ban e-cigarettes and other electronic nicotine delivery systems (ENDS).**

◎ **ABOUT:**

- An electronic cigarette or e-cigarette is a handheld battery-powered vaporizer that simulates smoking by providing some of the behavioural aspects of smoking, but without burning tobacco.
- E-cigarettes contain potentially harmful substances – such as heavy metals like lead, volatile organic compounds and cancer-causing agents.
- e-cigarettes contain nicotine and not tobacco, they do not fall within the ambit of the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA), which mandates stringent health warnings on the packaging and advertisements of tobacco products.

Facts on e-cigarettes

- E-cigarettes aim to resemble cigarettes, but without burning tobacco.
- They are sold as aids to reduce or quit smoking, and some people find them helpful for this.
- However, research shows that they may have a negative impact on health.
- Health authorities are trying to tighten up regulations to discourage young people from using e-cigarettes.

Benefits

- E-cigarettes claim to bypass many of the health risks of tobacco smoking, and to offer a more healthful alternative to cigarettes and other conventional forms of nicotine intake.
- Some studies have found that using e-cigarettes can help some smokers quit.
- They offer "modest" benefits for those who want to quit smoking, but "good potential" for those who are cutting down.
- The Centers for Disease Control and Prevention (CDC) says that e-cigarettes can benefit adult smokers who are not pregnant, as long as they completely replace any other nicotine or tobacco products.

Risks

- Most e-cigarettes contain nicotine, which is addictive and triggers changes in the adolescent brain. It is hazardous during pregnancy as it can affect fetal development.
- The aerosol contains solvents, flavorings, and toxicants, which the Surgeon General describes as either "harmful" or "potentially harmful."
- E-cigarettes expose the lungs to different substances. One of these is dicetyl, which can cause "popcorn lung," a severe and irreversible lung disease.
- Potentially fatal poisoning has resulted from accidentally swallowing and from inhaling e-cigarette liquid.
- People who seek to quit smoking will stop using conventional and medically monitored methods of doing so.

- Those who use or who have used e-cigarettes are less likely to stop smoking altogether.
- Teens who use e-cigarette products are more likely to start using regular tobacco as well.
- Continued use of nicotine can make other drugs, such as cocaine, more pleasurable.
- The flavorings, the marketing, and the concept that it is not harmful all tempt teenagers to start vaping. There is concern that this increases the chance that they will smoke conventional cigarettes later.
- Second-hand smoking is not eliminated by vaping, as vaping releases carcinogenic emissions.

How do e-cigarettes affect the brain?

- The nicotine in e-liquids is readily absorbed from the lungs into the bloodstream when a person uses an e-cigarette.
- Upon entering the blood, nicotine stimulates the adrenal glands to release the hormone epinephrine (adrenaline).
- Epinephrine stimulates the central nervous system and increases blood pressure, breathing, and heart rate.
- As with most addictive substances, nicotine activates the brain's reward circuits and also increases levels of a chemical messenger in the brain called dopamine, which reinforces rewarding behaviors.
- Pleasure caused by nicotine's interaction with the reward circuit motivates some people to use nicotine again and again, despite risks to their health and well-being.

Steps to be taken

- There are more than 460 different e-cigarette brands with varying configurations of nicotine delivery available in the market.
- The ICMR has recommended complete prohibition on ENDS or e-cigarettes in India in the greater interest of protecting public health.
- By bringing together all stakeholders under one umbrella to prevent this impending epidemic of e-cigarettes use.
- Advertising has been shown to promote a positive brand image for vaping devices and to spur youth to try them, while social media marketing has been linked to explosive growth in sales. Therefore, governments globally should promptly ban all e-cigarette advertising.
- Governments should also mandate plain packaging for vaping devices, ban their use wherever tobacco use is banned and strictly limit the accessibility of sales to youth – placing e-cigarettes behind the pharmacy counter.

FACIAL RECOGNITION

◎ CONTEXT:

- The Automated Facial Recognition System (AFRS) has been proposed by the Ministry of Home Affairs that aims to modernise the police force by identifying criminals and also enhances information sharing between police units across the country.

◎ ABOUT:

What is AFRS?

- The AFRS will use images from sources like CCTV cameras, newspapers, and raids to identify criminals against existing records in the Crime and Criminal Tracking Networks and System (CCTNS) database, which is managed by National Crime Record Bureau (NCRB, it manages crime data for police).
- The new facial recognition system will also be integrated with **Integrated Criminal Justice System (ICJS)**, as well as state-specific systems, the **Immigration, Visa and Foreigners Registration & Tracking (IVFRT)**, and the **KhoyaPaya portal** on missing children.

- **Significance:** It can play a very vital role in crime prevention and criminal identification and verification (identifying criminals, missing people, and unidentified dead bodies) by facilitating easy recording, analysis, retrieval and sharing of information between different organizations.

How AFRS works?

- It works by maintaining a large database with photos and videos of peoples' faces.
- Then, a new image of an unidentified person is compared to the existing database to find a match and identify the person.
- Neural networking is the artificial intelligence technology used for pattern-finding and matching.
- It will not only create a biometric map of our faces, but also track, classify, and possibly anticipate our every move.

Are there any AFRS in use in India?

- It is a new idea the country has started to experiment with. Ministry of Civil Aviation's "DigiYatra" using facial recognition for airport entry is already in trial in the Hyderabad airport.
- State governments have also taken their own steps towards facial recognition. Telangana police launched their own system in August 2018.

Question on violation of privacy

- Government says that no violation of privacy as it will only track criminals and be accessed only by law enforcement.
- However, AFRS not only creates a biometric map of our faces, but can also track, classify, and possibly anticipate our every move.
- Technically speaking, it is impossible for the AFRS to be truly used only to identify, track and verify criminals, despite the best of intentions.
- Recording, classifying and querying every individual is a prerequisite for the system to work.

Assumed guilty

- The system will treat each person captured in images from CCTV cameras and other sources as a potential criminal, creating a map of her face, with measurements and biometrics, and match the features against the CCTNS database.
- This means that we are all treated as potential criminals when we walk past a CCTV camera — turning the assumption of "innocent until proven guilty" on its head.

Argument of efficiency

- It is assumed that facial recognition will introduce efficiency and speed in enforcing law and order. In August 2018, a facial recognition system used by the Delhi police was reported to have an accuracy rate of only 2%. This is a trend worldwide, with similar levels of accuracy reported in the U.K. and the U.S.
- Accuracy rates of facial recognition algorithms are particularly low in the case of minorities, women and children, as demonstrated in multiple studies across the world.
- Use of such technology in a criminal justice system where vulnerable groups are over-represented makes them susceptible to being subjected to false positives (being wrongly identified as a criminal).
- Image recognition is an extremely difficult task, and makes significant errors even in laboratory settings. Deploying these systems in consequential sectors like law enforcement is ineffective at best and disastrous at worst.

Fears of mass surveillance

- Facial recognition makes data protection close to impossible as it is predicated on collecting publicly available information and analysing it to the point of intimacy.

- It can also potentially trigger a seamless system of mass surveillance, depending on how images are combined with other data points.
- The AFRS is being contemplated at a time when India does not have a data protection law. In the absence of safeguards, law enforcement agencies will have a high degree of discretion.

Way Ahead

- The notion that sophisticated technology means greater efficiency needs to be critically analysed.
- The Personal Data Protection Bill 2018 is yet to come into force, and even if it does, the exceptions contemplated for state agencies are extremely wide.
- A deliberative approach will benefit Indian law enforcement, as police departments around the world are currently learning that the technology is not as useful in practice as it seems in theory.
- Police departments in London are under pressure to put a complete end to use of facial recognition systems following evidence of discrimination and inefficiency.
- San Francisco recently implemented a complete ban on police use of facial recognition. India would do well to learn from their mistakes.

Criminal Tracking Network & Systems (CCTNS)

- It is a countrywide integrated database on crime incidents and suspects, connecting FIR registrations, investigations, and charge sheets of all police stations and higher offices.
- It also plans to offer citizen services, such as passport verification, crime reporting, online tracking of case progress, grievance reporting against police officers.

'GENOME SEQUENCING'

◎ CONTEXT:

- Next Generation Sequencing (NGS) facility, which can sequence 30 human genomes a day, was inaugurated by Union Minister of Science and Technology at the Centre for Cellular and Molecular Biology (CCMB), a CSIR lab in Hyderabad. It costs around ₹ 1 lakh to sequence one genome using this facility.

DNA and its structure

Deoxyribonucleic acid, more commonly known as DNA, is a complex molecule that contains all of the information necessary to build and maintain an organism. All living things have DNA within their cells. In fact, nearly every cell in a multicellular organism possesses the full set of DNA required for that organism.

The DNA molecule consists of two strands that wind around one another to form a shape known as a double helix.

Each strand has a backbone made of alternating sugar (deoxyribose) and phosphate groups. Attached to each sugar is one of four bases--**adenine (A), cytosine (C), guanine (G), and thymine (T)**. The two strands are held together by bonds between the bases; adenine bonds with thymine, and cytosine bonds with guanine.

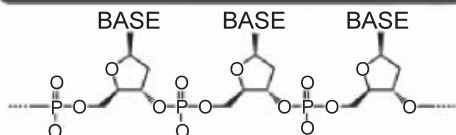
The sequence of the bases along the backbones serves as instructions for assembling protein and RNA molecules. Why it is named on Ramanujan?

Genome sequencing

- Genome sequencing is a method used to determine the precise order of DNA nucleotides, or bases -Adenine, Cytosine, Guanine, and Thymine- that make up an organism's DNA.

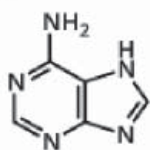
THE CHEMICAL STRUCTURE OF DNA

THE SUGAR PHOSPHATE 'BACKBONE'

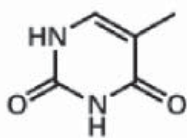


DNA is a polymer made up of units called nucleotides. The nucleotides are made of three different components : a sugar group, a phosphate group, and a base. There are four different bases: adenine, thymine, guanine and cytosine.

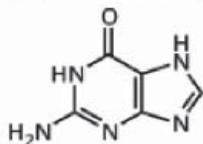
A ADENINE



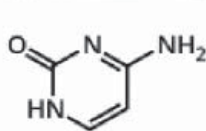
T THYMINE



G GUANINE

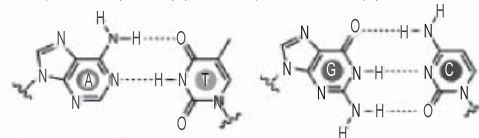


C CYTOSINE



WHAT HOLDS DNA STRANDS TOGETHER?

DNA strands are held together by hydrogen bonds between bases on adjacent strands. Adenine (A) always pairs with thymine (T), While guanine (C) always pairs with cytosine (C). Adenine pairs with uracil (U) in RNA.



FROM DNA TO PROTEINS

The bases on a single strand of DNA act as a code. The letters from three letter codons. Which code for amino acids - the building blocks of proteins.

DNA $\xrightarrow{\text{Transcription}}$ RNA $\xrightarrow{\text{Translation}}$ PROTEIN

An enzyme, RNA polymerase, transcribes DNA into mRNA (messenger ribonucleic acid). It splits apart the two strands that form the double helix, then reads a strand and copies the sequence of nucleotides. The only difference between RNA and the original DNA is that in the place of thymine (T), another base with similar structure is used : uracil (U).

DNA SEQUENCE **TTCCTGAACCCGTTA**

mRNA SEQUENCE **UUC CUG AAC CCG UUA**

AMINO ACID Phenylalanine Leucine Asparagine Proline Leucine

In multicellular organisms, the mRNA carries genetic code out of the cell nucleus, to the cytoplasm. Here protein synthesis takes place. 'Translation' is the process of turning the mRNA's 'code' into proteins. Molecules called ribosomes carry out this process, building up proteins from the amino acids coded for.

- These bases provide the underlying genetic basis (the genotype) for telling a cell what to do, where to go and what kind of cell to become (the phenotype).
- Nucleotides are not the only determinants of phenotypes, but are essential to their formation.
- Each individual and organism has a specific nucleotide base sequence.

Human genome is made up of 23 chromosome pairs with a total of about 3 billion DNA base pairs. There are 24 distinct human chromosomes: 22 autosomal chromosomes, plus the sex-determining X and Y chromosomes.

Importance of Genome Sequencing

- It would help in finding the locations of the genes much more easily and quickly.
- It's hoped that 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.
- It would help in determining the thousands of nucleotide variations associated with specific genetic diseases, like Huntington's, which may help to better understand these diseases and advance treatment.
- Genes account for less than 25 percentage of the DNA in the genome. So knowing the entire genome sequence will help scientists study the parts of the genome outside the genes like junk DNA or regulatory regions that control how genes are turned on and off.
- With advances in technology, it has started to guide treatments for common cancers and is also being used to determine which medications are safe on a person-by-person basis.
- It can also help in agricultural sector. It can help identify genes governing the required trait and thus develop a new crop variety by breeding.

Challenges and consequences

- **Data interpretation** – There are practical challenges regarding the interpretation of data even with advancement of technology.
- **Limits to disease prediction** - As most of the genetic variants in the human genome are still not fully understood.
- **Lack of trained physicians** - Most physicians is not well trained in interpreting genetic data and so many are unwilling to work with their patients DNA results.
- **Data storage** – such a large amount of generated data needs huge storage space.

India and genome sequencing

- India didn't join **Human Genome Project** initiated in 1990s to determine DNA sequence.
- However, India is involved with a **100k GenomeAsia project** to sequence the whole genomes of 100k Asians, including 50,000 Indians.
- Council of Scientific and Industrial Research (CSIR) is also undertaking the genome sequences of nearly 1000 rural youth of India.
- Genome sequencing of endangered animals like Asiatic Lion and Royal Bengal Tiger has been done to understand their evolutionary linkages, perform comparative studies with other big cats and helps in preservation.
- India has been investing in various Next Generation Sequencing (NGS) facilities to expand its research base on genome sequencing.

Human Genome Project (HGP)

- It was the international, collaborative research program whose goal was the complete mapping and understanding of all the genes of human beings. All our genes together are known as our "genome".
- It was a 13-year-long, publicly funded project initiated in 1990 coordinated by the National Institutes of Health and the U.S. Department of Energy.
- It helped to develop modern sequencing techniques, which have vastly improved the efficiency while reducing the costs of genomic research.
- It read the genetic code of just one species, Homo sapiens, between 1990 and 2003.

Human Genome Project - Write (HGP - Write)

- It's a proposed second Human Genome Project
- It is believed that to truly understand our genetic blueprint, it is necessary to "write" DNA and build human (and other) genomes from scratch.

LIGO (LASER INTERFEROMETER GRAVITATIONAL-WAVE OBSERVATORY)

◎ CONTEXT:

- A gravitational wave observatory has been set up in India in collaboration with LIGO. This project is expected to join the international network in a first science run in 2025.

◎ ABOUT:

What is LIGO?

- It is the world's largest gravitational wave observatory and a wonder of precision engineering.

- It comprises of two enormous laser interferometers located thousands of kilometres apart, each having two arms which are 4 km long.
- It exploits the physical properties of light and of space itself to detect and understand the origins of **Gravitational Waves (GW)**.

Sources of GW

- Mergers of black holes or neutron stars, rapidly rotating neutron stars, supernova explosions and the remnants of the disturbance caused by the formation of the universe, the Big Bang itself, are the strongest sources.
- There can be many other sources, but these are likely to be too weak to detect.
- The study of GW offers a new way to map out the universe by using gravitational-wave astronomy.

LIGO detectors

- Two LIGO detectors work as one unit to ensure a remarkable precision, which is needed to detect a signal as weak as a gravitational wave.
- Its detector components are completely isolated and sheltered from the outside world.
- Unlike optical or radio telescopes, it does not see electromagnetic radiation (e.g., visible light, radio waves and microwaves) because gravitational waves are not part of the electromagnetic spectrum.
- It doesn't need to collect light from stars; it doesn't need to be round or dish-shaped like optical telescope mirrors or radio telescope dishes, both of which focus EM radiation to produce images.

LIGO Project at a global level

- Two LIGO detectors are already operational in the U.S., at Livingston and Hanford.
- The Japanese detector, KAGRA, or Kamioka Gravitational-wave Detector, is expected to join the international network soon.

LIGO India

- LIGO India will come up in Maharashtra, which will also have two arms of 4 km length.
- The project aims to move one Advanced LIGO detector from Hanford to India.
- This project is a collaboration between the LIGO Laboratory and three lead institutions in the IndIGO consortium: Institute of Plasma Research (IPR) Gandhinagar, Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune and Raja Ramanna Centre for Advanced Technology (RRCAT), Indore.
- It is an ultra-high precision large-scale apparatus, which is expected to show a unique "temperament" determined by the local site characteristics.

Significance of another detector in India

- **To locate gravitational waves:** Observations from a new detector in a far-off position will help locate the source of the gravitational waves more accurately.
- **Identification of new sources:** A new detector will increase the expected event rates, and will boost the detection confidence of new sources (by increasing the sensitivity, sky coverage and duty cycle of the network).
- **Impact on Indian Science:** The project will help Indian scientific community to be a major player in the emerging research frontier of GW astronomy. This major initiative will further inspire frontier research and development projects in India.
- **Impact on industry:** The high-end engineering requirements of the project (such as the world's largest ultra-high vacuum facility) will provide unprecedented opportunities for Indian industries in collaboration with academic research institutions.

- **Education and public outreach:** A cutting edge project in India can serve as a local focus to interest and inspire students and young scientists. The project involves high technology instrumentation and its dramatic scale will spur interest and provide motivation to young students for choosing experimental physics and engineering physics as career options.

What is the technology being developed in India for LIGO India?

- Some of it includes design and fabrication of ultra-stable laser, quantum measurement techniques, handling of complex control system for enforcing precision control, large-scale ultra-high vacuum technology, data analysis and machine learning.
- This is not a complete list and the development of such indigenous technology is likely to result in many spin-offs for industry and research.
- The dramatic improvement from LIGO-India would come in the ability of localizing GW sources in the sky.

What are Gravitational Waves?

- These waves are 'ripples' in space-time caused by some of the most violent and energetic processes in the Universe.
- The strongest gravitational waves are produced by catastrophic events such as colliding black holes, the collapse of stellar cores (supernovae), coalescing neutron stars or white dwarf stars, the slightly wobbly rotation of neutron stars that are not perfect spheres, and possibly even the remnants of gravitational radiation created by the birth of the Universe itself.

KALA AZAR

◎ CONTEXT:

- Study warns Kala azar patients can be a source of infection for others in their community.

◎ ABOUT:

More on news:

- Researchers from the global programme, Drugs for Neglected Diseases initiative, and the International Centre for Diarrhoeal Disease Research, Bangladesh, conducted the study.
- A study has highlighted the need to keep track of patients even after they are treated successfully to see whether they develop a skin condition called Post-kala-azar dermal leishmaniasis (PKDL).
- Public health programmes normally ignore the condition since it merely develops as skin lesions in the form of rashes and nodules.
- Even though the lesions were found to contain the parasite causing kalaazar, it was not fatal like kalaazar. It also appears in only some patients and not all.

Highlights of the research

- As part of the trial, 47 patients were asked to keep their hands inside the cage containing laboratory-reared sandflies for 15 minutes.
- The sandflies were then analysed and the results showed that nearly 60% of the patients in the study passed on the parasites to sandflies.

Significance of the research

- **Scarcity of Information:** Until now, information on the role of PKDL was scarce and scattered across decades of different research initiatives.

- **Importance of transmission:** It is of pivotal importance for maintaining transmission of the disease in-between epidemics.
- **Problem Identification:** These new findings show that early treatment of patients showing the condition will be a critical element of any leishmaniasis elimination strategy.

KALA-AZAR

- It is a chronic and potentially fatal parasitic disease of the internal organs, particularly the liver, spleen, bone marrow and lymph nodes.
- It is caused by bites from female phlebotomine sandflies – the vector (or transmitter) of the leishmania parasite.
- The sand flies feed on animals and humans for blood, which they need for developing their eggs.
- The term “kala-azar” comes from India where it means black fever.
- It is also known as Indian leishmaniasis, visceral leishmaniasis, leishmania infection, dum-dum fever, black sickness, and black fever.
- It spreads due to infection by the parasite called **Leishmaniadonovani**.
- *Leishmaniadonovani* is transmitted by sandfly bites in parts of Asia (primarily India), Africa (primarily Sudan), South America (primarily Brazil), Europe (primarily in the Mediterranean region) and in North America.
- According to WHO, if the disease is not treated, the fatality rate in developing countries can be as high as 100% within 2 years.

Symptoms of Kala azar

- It is associated with fever, loss of appetite (anorexia), fatigue, enlargement of the liver, spleen and nodes and suppression of the bone marrow.
- It also increases the risk of other secondary infections.

Diagnosing Kala azar

- The first oral drug found to be effective for treating kala-azar is **miltefosine**.
- The most common method of diagnosing kalaazar is by dipstick testing. However, this method is highly problematic.

‘PROTECTION OF CHILDREN FROM SEXUAL OFFENCES (AMENDMENT) BILL, 2019’

© CONTEXT:

- Parliament passed Protection of Children from Sexual Offences (Amendment) Bill, 2019 to protect children from offences such as sexual assault, sexual harassment, and pornography..

The salient features and the recent amendments are as follows:

- **Penetrative sexual assault:** It defines “penetrative sexual assault” act as penetrating penis into vagina, mouth, urethra, anus of **child or making a child to do the same** and several other such acts. The **punishment earlier** was imprisonment between **seven years to life, and a fine**.
 - The **Bill increases** the minimum punishment from **7 years to 10 years**.
 - It **further adds** that if a person commits penetrative **sexual assault on a child below the age of 16 years**, he will be punishable **with imprisonment between 20 years to life, with a fine**.

- **Aggravated penetrative sexual assault:** It defines certain actions as “aggravated penetrative sexual assault” like cases **when a public servant or relative** commits penetrative sexual **assault on a child**. Or if the child becomes pregnant.

The **Bill adds two more grounds** to the definition of aggravated penetrative sexual assault.

- Assault resulting in death of child, and
- Assault committed during a natural calamity, or in any similar situations of violence.
- The Bill increases **the minimum punishment from ten years to 20 years**, and the **maximum punishment to death penalty**.

- **Aggravated sexual assault:** It defines actions like touching vagina, penis, anus etc. without penetration without penetration which injures sexual organs or done by the relative of the child.

The Bill adds two more offences to the definition of aggravated sexual assault.

- Assault committed during a natural calamity
- Administering or help in administering any hormone or any chemical substance, to a child for the purpose of attaining early sexual maturity.

- **Pornographic purposes:** The Bill **defines child pornography** as any visual depiction of sexually explicit conduct involving a child including photograph, video, digital or computer generated image indistinguishable from an actual child. **The Bill enhances the punishments** for offences under this provision.

- **Storage of pornographic material:** The Act penalises storage of pornographic material for commercial purposes with a punishment of up to **three years, or a fine, or both**.

The **Bill amends this** to provide that the punishment can be imprisonment **between three to five years, or a fine, or both**.

In addition, **the Bill adds two other offences** for storage of pornographic material involving children.

- Failing to destroy, or delete, or report pornographic material involving a child
- Transmitting, displaying, distributing such material except for the purpose of reporting it
- These are welcome amendments and will ensure child safety and protection from sexual assault.

GLOBAL INNOVATION INDEX (GII) 2019

◎ CONTEXT:

- The Government of India (GOI) has launched the Global Innovation Index (GII) in New Delhi. This is the first time that the GI is being launched in an emerging economy.

◎ ABOUT:

More on News:

- The **Department for Promotion of Industry and Internal Trade (DPIIT)** of **Ministry of Commerce and Industry**, **World Intellectual Property Organization (WIPO)** and **Confederation of Indian Industry (CII)** have co-hosted the event.
- The theme of GI- 2019 is “**Creating Healthy Lives - The Future of Medical Innovation**” which aims to explore the role of medical innovation as it shapes the future of healthcare.
- This is the 12th edition of the GI rankings of 129 economies.

GII

- It was introduced in 2009 and it is an annual ranking of countries by their capacity for, and success in, innovation.

- The GII rankings are published every year by **Cornell University**, **INSEAD** and the **UN World Intellectual Property Organization (WIPO)** and **GII Knowledge Partners**.
- India's **Confederation of Indian Industry (CII)** is one of the knowledge partners which assist GII team in bringing out the annual ranking.
- It is based on 80 indicators ranging from intellectual property filing rates to mobile-application creation, education spending and scientific and technical publications.
- The GII is commonly used by corporate and government officials to compare countries by their level of innovation.
- It analyses the medical innovation landscape of the next decade, looking at how technological and non-technological medical innovation will transform the delivery of healthcare worldwide.
- It also explores the role and dynamics of medical innovation as it shapes the future of healthcare, and the potential influence this may have on economic growth.

India's Performance

- India's ranking in the Global Innovation Index is 52 which show an improvement of 5 points from the last years ranking (57).
- It is among the top in the world in innovation drivers such as Information and Communication Technology (ICT), services exports, graduates in science and engineering, the quality of universities, gross capital formation (a measure of economy-wide investments) and creative goods exports.
- It stands out in the world's top science and technology clusters, with Bengaluru, Mumbai, and New Delhi featuring among the top 100 global clusters.
- It continues to be the most innovative economy in central and southern Asia (a distinction held since 2011).

Global Performance

- Switzerland tops the GII index followed by Sweden, United States of America, Netherlands, United Kingdom, Finland, Denmark, Singapore, Germany and Israel. While Yemen secured the last rank.
- China scored the rank 17th rank this year, which is an upgrade from the previous 44th rank in 2017.

The overall GII score is the simple average of the Input and Output Sub-Index scores:

- The Innovation Input Sub-Index is comprised of five input pillars that capture elements of the national economy that enable innovative activities: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication.
- The Innovation Output Sub- Index provides information about outputs that are the results of innovative activities within the economy.
- There are two output pillars: (6) Knowledge and technology outputs and (7) Creative outputs.
- The Innovation Efficiency Ratio is the ratio of the Output Sub-Index score over the Input Sub-Index score. It shows how much innovation output a given country is getting for its inputs
