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Polity and Governance

1.   Sabarimala temple opens to women of all ages

Context :

Condemning the prohibition as hegemonic patriarchy, the Supreme Court has lifted the centuries-old practice of prohibiting women to enter the Lord Ayyappa temple at Sabarimala in Kerala.

All eyes on SC

The chronology of the long-standing petition in the Supreme Court against the restriction on women aged between 10 and 50 from entering the Sabarimala temple in Kerala:

2008: On March 7, a Bench of Justices S.B.Sinha and V.S. Sirpurkar referred the case to a three-judge Bench. The case lay in cold storage for 8 years

2016: On April 13, a Bench of Justices Dipak Misra, V. Gopala Gowda and Kurian Joseph heard a batch of petitions

2016: On April 25, senior advocate K.K. Venugopal, representing the Devaswom, said, "There is a reasonable classification by which certain class of women are excluded." The SC enquired if the defence was implying that menstruation was associated with purity of women

1991: In *S. Mahendran versus the Secretary, Travancore* case, the Kerala High Court upheld the State's ban on menstruating women from entering the temple. The HC order went unchallenged for 15 years

2006: Kannada actor Jayamala claimed she had entered the sanctum sanctorum and touched the idol of the deity in Sabarimala. Her claims led to a furore, leading to a case against the actor

2006: A PIL against the Kerala HC order was filed by the India Young Lawyers Association, contending that the ban violated constitutional rights of women

2017: On Oct. 13, the SC referred the Sabarimala case to the Constitution Bench

- The legend has it that the temple deity Ayyappa followed celibacy all through his life. Therefore, women devotees of menstruating age are considered "impure" by supporters of the ban and are prohibited from entering the temple, on the pretext that they would disturb the celibacy of the deity.

Views of the court:

- On one side we pray to goddesses; on the other, women of a certain age are considered 'impure'. This dualistic approach is nothing but patriarchy practised in religion.

- Exclusion on grounds of biological and physiological features like menstruation was therefore unconstitutional as it is violative of the right to equality and dignity of women.
- Hence, Rule 3(b) of the Kerala Hindu Places of Public Worship (Authorisation of Entry) Act of 1965, which mandates the prohibition in Sabarimala temple, ultra vires the Constitution. The Rule violated the fundamental right of a Hindu woman to offer worship at a place of her choice. Right to worship is equally available to men and women.

Dissenting views:

- Justice Indu Malhotra, the lone woman judge on the Constitution Bench, dissented from the majority opinion. She held that the determination of what constituted an essential practice in a religion should not be decided by judges on the basis of their personal viewpoints.
- She held that essentiality of a religious practice or custom had to be decided within the religion. It was a matter of personal faith. Constitutional morality in a pluralistic society gave freedom to practice even irrational or illogical customs and usages.
- Harmonization of fundamental rights with religion included providing freedom for diverse sects to practise their customs and beliefs. Therefore, the Judge held that there were strong, plausible reasons to show that Ayyappa devotees had attributes of a religious denomination.
- They have distinct names, properties. Besides, the Sabarimala temple was not funded out of the Consolidated Fund.

Significance of the verdict:

- The Supreme Court's ruling establishes the legal principle that individual freedom prevails over purported group rights, even in matters of religion. Devotees of Lord Ayyappa do not constitute a separate religious denomination and that the prohibition on women is not an essential part of Hindu religion.
- Beyond the legality of the practice, the court has also sought to grapple with the stigmatisation of women devotees based on a medieval view of menstruation as symbolising impurity and pollution.
- The decision reaffirms the Constitution's transformative character and derives strength from the centrality it accords to fundamental rights.

Way ahead:

- Devotion cannot be subjected to the stereotypes of gender. Stigma built around traditional notions of impurity has no place in the constitutional order, and exclusion based on the notion of impurity is a form of untouchability.
- Any rule based on segregation of women pertaining to biological characteristics is indefensible and unconstitutional.

2. Cry for decriminalisation of politics

Key facts:

- **The N.N. Vohra Committee,** which was set up following a public outcry after the blasts, submitted its report in October 1993 after its study of the problem of criminalisation of politics and the nexus among criminals, politicians and bureaucrats in India.

- The committee had concluded that agencies, including the CBI, IB, RAW, had unanimously expressed their opinion that the criminal network was virtually running a parallel government.

- The committee report mentioned how money power was first acquired through real estate and then used for building up contacts with bureaucrats and politicians.

- The voices within Parliament also felt the need to end the bane of criminal politics.

- The **18th Report presented by a parliamentary committee** to the Rajya Sabha in March 2007 expressed a strong "feeling that politics should be cleansed of persons with established criminal background".

- It said "criminalisation of politics is the bane of society and negation of democracy".

- **The Law Commission of India, in its 244th report**, succinctly put it that "instead of politicians having suspected links to criminal networks, as was the case earlier, it was persons with extensive criminal backgrounds who began entering politics."

- The Law Commission said that in the 10 years since 2004, 18% of the candidates contesting either national or State elections had criminal cases against them (11,063 out of 62,847).

- **The Goswami Committee on Electoral Reforms,** as early as in 1990, highlighted the crippling effect of money and muscle power in elections.

3. Model Code of Conduct

Context:

Election Commission (EC) has announced that Model Code of Conduct comes into force immediately in states where legislative assemblies have been dissolved prematurely.

- EC has also held that after dissolution caretaker government as well as the central government is barred from announcing new schemes in particular state from date of dissolution of legislative assembly till new House is elected.

Model Code of Conduct (MCC):

- These are the guidelines issued by the Election Commission of India for conduct of political parties and candidates during elections mainly

with respect to speeches, polling day, polling booths, election manifestos, processions and general conduct.

- **Aim:** To ensure free and fair elections.
- So far, the Model Code of Conduct came into force immediately on announcement of the election schedule by the commission. The Code remains in force till the end of the electoral process.
- **Status:** The need for such code is in the interest of free and fair elections. However, the code does not have any specific statutory basis. It has only a persuasive effect. It contains what is known as "rules of electoral morality". But this lack of statutory backing does not prevent the Commission from enforcing it.
- **Evolution:** The Commission issued the code for the first time in 1971 (5th Election) and revised it from time to time. This set of norms has been evolved with the consensus of political parties who have consented to abide by the principles embodied in the said code and also binds them to respect and observe it in its letter and spirit.

The salient features of the Model Code of Conduct lay down how political parties, contesting candidates and party(s) in power should conduct themselves during the process of elections i.e. on their general conduct during electioneering, holding meetings and processions, poll day activities and functioning of the party in power etc.

4.   Appointment of Lokpal

Context:

Government has constituted eight-member search committee headed by former Supreme Court judge, Justice Ranjana Prakash Desai, to recommend names for posts of Lokpal chairperson and members. The selection process of Lokpal is underway as per guidelines of laid down in Lokpal and Lokayuktas Act, 2013.

A long-drawn debate

A short history of the Lokpal Bill from the 1960s to the present

1963: The idea of an Ombudsman first came up in Parliament during a discussion on budget allocation for the Law Ministry

1966: The First Administrative Reforms Commission recommended two independent authorities — one at the Centre and one at the

State level — to probe complaints against public functionaries, including MPs

1968: Lokpal Bill introduced in Parliament, but was not passed. Eight attempts were made till 2011 to pass the Bill, but all in vain

2002: The Constitution review commission headed by M.N. Venkatachaliah recommended appointment of the Lokpal and the Lokayuktas. It also recommended that the Prime Minister be kept out of the Lokpal's ambit

2005: The second ARC recommended that a Lokpal be established without delay

2013: Lokpal Act, 2013, passed in Parliament

2016: Lok Sabha agreed to amend the 2013 Act

2017: The SC on April 27 clarified that the Lokpal appointment process need not be stalled merely due to the absence of the Leader of the Opposition, who is a member of the Lokpal selection committee as per the 2013 Act

Committee's Terms of Reference:

The search committee will start functioning soon. It will recommend names for Lokpal chairperson and members. It can also consider names other than those recommended by the search committee.

Highlights of the Lokpal Act of 2013:

- The Act allows setting up of anti-corruption ombudsman called Lokpal at the Centre and Lokayukta at the State-level.
- The Lokpal will consist of a chairperson and a maximum of eight members.
- The Lokpal will cover all categories of public servants, including the Prime Minister. But the armed forces do not come under the ambit of Lokpal.
- The Act also incorporates provisions for attachment and confiscation of property acquired by corrupt means, even while the prosecution is pending.
- The States will have to institute Lokayukta within one year of the commencement of the Act.
- The Act also ensures that public servants who act as whistleblowers are protected.

Powers:

- The Lokpal will have the power of superintendence and direction over any investigation agency including CBI for cases referred to them by the ombudsman.
- As per the Act, the Lokpal can summon or question any public servant if there exists a prima facie case against the person, even before an investigation agency (such as vigilance or CBI) has begun the probe. Any officer of the CBI investigating a case referred to it by the Lokpal, shall not be transferred without the approval of the Lokpal.
- An investigation must be completed within six months. However, the Lokpal or Lokayukta may allow extensions of six months at a time provided the reasons for the need of such extensions are given in writing.
- Special courts will be instituted to conduct trials on cases referred by Lokpal.

5. LooReview Campaign

Context:

The Ministry of Housing and Urban Affairs, under the aegis of Swachh Bharat Mission – Urban has partnered with Google to launch the Loo Review campaign.

About the Loo Review campaign:

- It is aimed to encourage all local guides in India to rate and review public toilets on Google Maps.

- This campaign will allow all citizens to locate public toilets in their cities on Google Maps, Search and the Assistant and also provide feedback on the same.

- Local Guides are people who share reviews, photos, and knowledge on Google Maps to help people explore the world.

Significance:

- The joint campaign to be run throughout October and November 2018 is an effort to increase the awareness and ease of locating public toilets across India. 500+ cities in India with more than 30,000 toilets with the name of "SBM Toilet" are currently live on Google Maps.

- One of the objectives of the SBM- U is to provide sanitation coverage through public toilet facilities across cities in India for achieving Open Defecation Free (ODF) status. There is now a need to ensure that the ODF status is sustained through continuous usage and proper maintenance of public toilets. The 'Public toilets near me' feature will benefit citizens, particularly women and senior citizens, who often find it difficult to find access to clean toilets in the public space.

- The feedback provide by local guides through the Loo Review campaign will press upon the Urban Local Bodies to take proactive steps to improve public toilet facilities across the country.

6. First Regional Conference on 'Women in Detention and Access to Justice'

Context:

The Bureau of Police Research and Development (BPR&D), Ministry of Home Affairs is organising the First ever Regional Conference at Shimla on 'Women in Detention and Access to Justice' in collaboration with the Prison Department, Himachal Pradesh.

Objectives of the conference:

- This conference is organised with a view to provide a platform for the prison personnel of all ranks at the national level to share their candid views on various operational as well as administrative issues not only with their counterparts, but also with other experts of national repute in this field.

- The conference also seeks to identify best practices and standards in the working of Correctional Administration to meet new challenges in the present day's context to bring out prison reforms in objective terms.

- This event would also promote research and developmental activities on the functioning of the Correctional Administration across the

country on the one hand and nudge to develop a scientific approach among the various Correctional Administration in a professional manner.

- As of 2015, there are 4,19,623 persons in jail in India, of which, 17,834 (about 4.3%) are women. Of these, 11,916 (66.8%) are undertrial prisoners.

- There is an increasing trend in the number of women prisoners – from 3.3% of all prisoners in 2000 to 4.3% in 2015.

- A majority of female inmates are in the age group of 30-50 years (50.5%), followed by 18-30 years (31.3%).

- Of the total 1,401 prisons in India, only 18 are exclusive for women, housing 2,985 female prisoners. Thus, a majority of women inmates are housed in women's enclosures of general prisons.

Need for reforms:

- Women in prisons face greater hardships than their male counterparts due to many factors such as social stigma, financial dependence on their families or husbands etc. These difficulties are further exacerbated when the woman has children.

- Women have to face numerous problems in prisons owing to inadequacy of female staff which often translates to the reality that male staff becomes responsible for female inmates, which is undesirable.

- Women are not provided with meals that are nutritious and according to their bodily requirements.

- Women are at a most disadvantageous position when it comes to their reintegration in society after release. Many are abandoned or harassed post-release, mainly due to the stigma attached with incarceration, which is even more pronounced in cases of women.

- Women also tend to lose ties with their children over the years, due to inadequate child custody procedures. Also, a robust grievance redressal mechanism was required to tackle cases of sexual harassment, violence and abuse against women in jails.

Way ahead:

- Reforms are needed for improving the lives of women under incarceration including the elderly and the disabled, addressing a wide range of issues pertaining to pregnancy and childbirth in prison, mental health, legal aid, reintegration in society and their caregiving responsibilities among others. In this regard, changes in the National Model Prison Manual 2016 have also been suggested to bring it in line with international standards and norms.

7. Rashtriya Vayoshri Yojana Camp

Context:

A Distribution camp for free of cost distribution of Aids and Assistive Living devises under Rashtriya Vayoshri Yojana (RVY), a scheme of Social Justice & Empowerment Department for Senior Citizen under BPL category, was recently organized in Delhi by Artificial Limbs Manufacturing Corporation of India (ALIMCO), a PSU working under the aegis of Ministry of Social Justice and Empowerment.

About Rashtriya Vayoshri Yojana:

- The Scheme aims at providing Senior Citizens, belonging to BPL category and suffering from any of the age related disability/infirmity Low vision, Hearing impairment, Loss of teeth and Locomotor disability, with such assisted-living devices which can restore near normalcy in their bodily functions, overcoming the disability/infirmity manifested.
- This is a Central Sector Scheme, fully funded by the Central Government. The expenditure for implementation of the scheme will be met from the "Senior Citizens' Welfare Fund".
- Under the scheme, free of cost distribution of the devices, commensurate with the extent of disability/infirmity that is manifested among the eligible senior citizens will take place.
- In case of multiple disabilities/infirmities manifested in the same person, the assistive devices will be given in respect of each disability/ impairment.
- Beneficiaries in each district will be identified by the State Governments/UT Administrations through a Committee chaired by the Deputy Commissioner/District Collector.
- As far as possible, 30% of the beneficiaries in each district shall be women.

Background:

- As per the Census figures of 2011, the population of senior citizens in India is 10.38 crore. More than 70% of the population of senior citizens live in rural areas of the country. A sizeable percentage (5.2%) of the senior citizens suffers from some sort of disabilities related to old age. Projections indicate that the number of elderly population will increase to around 173 million by 2026.

8. Committee to review the Competition Act

Context:

In pursuance of its objective of ensuring that Legislation is in sync with the needs of strong economic fundamentals, the Government has constituted a Competition Law Review Committee to review the Competition Act headed by Secretary, Ministry of Corporate Affairs.

The Terms of References of the Committee are as follows:

- To review the Competition Act/ Rules/ Regulations, in view of changing business environment and bring necessary changes, if required.
- To look into international best practices in the competition fields, especially anti-trust laws, merger guidelines and handling cross border competition issues.
- To study other regulatory regimes/ institutional mechanisms/ government policies which overlap with the Competition Act.
- Any other matters related to competition issue and considered necessary by the Committee.

Background:

- The Competition Act was passed in the year 2002 and the Competition Commission of India was set up in pursuance of the same. The Commission started functioning in right earnest from 2009 and has contributed immensely towards the development of competition and fair play practices in the Indian market.

Need for review of the act:

- During the past nine years the size of the Indian Economy has grown immensely and India is today amongst the top five Economies in the World and poised to forge ahead further. In this context, it is essential that Competition Law is strengthened, and re-calibrated to promote best practices which result in the citizens of this country achieving their aspirations and value for money.

The Competition Act:

- The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, prohibits anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations (acquisition, acquiring of control and M&A), which causes or likely to cause an appreciable adverse effect on competition within India.

9. Tripura: Govt doles cut off, Bru refugees stare at uncertain future

Context:

In a major breakthrough on repatriation laced Bru persons from Mizoram since 1997, an agreement has been signed by Government of India, Governments of Mizoram and Tripura and Mizoram Bru Displaced People's Forum (MBDPF).

Riang or Bru tribe:

- Riang or Bru are one of the 21 scheduled tribes of the Indian state of Tripura.
- The Bru are the second most populous tribe of Tripura after the Tripuri's.

- The correct nomenclature for this ethnic group is actually Bru although the name Reang was accidentally incorporated by the Indian government during a census count.
- The Bru can be found all over the Tripura state in India. However, they may also be found in Mizoram, Assam, Manipur and Bangladesh.

Culture and religion:

- The marriage system is similar to other Tripuri tribes of Tripura.
- There is no dowry system.
- Dance is an integral part of Reang life.
- The Hojagiri folk dance of Riang sub tribe is rather well known all over the world.
- Buisu', not 'bihu' is the most popular festival of reang tribes.
- The majority of the Reang belongs to the Vaishnav school of Hinduism and claim Kshatriya status.
- They are polytheists and believe in multiple Gods and Goddesses.

Language:

They speak the Reang dialect of Kokborok language which is of Tibeto-Burmese origin and is locally referred to as Kau Bru.

10. Adultery is not a crime, rules SC; strikes it off IPC

Context:

Recently SC in its judgment ruled that adultery is not a criminal offence.

What is Section 497 of IPC?

- Section 497 of the IPC mandates that "Whoever has sexual intercourse with a person who is and whom he knows or has reason to believe to be the wife of another man, without the consent or connivance of that man, such sexual intercourse not amounting the offence of rape, is guilty of the offence of adultery and shall be punished."
- Section 497 is a kind of "romantic paternalism," which stemmed from the assumption that women, like chattels, are the property of men.
- Section 497 gave husbands the exclusive right as an aggrieved party to prosecute the adulterer in a case involving his wife, a similar right has not been conferred on a wife to prosecute the woman with whom her husband has committed adultery.

Wife has no right to prosecute her husband:

- The provision does not confer any right on the wife to prosecute her husband for adultery. The law also does not take into account cases where the husband has sexual relations with an unmarried woman. Thus, the provision deems that "husbands have a free licence under the law to have extra-marital relationships with unmarried women."

Supreme Court Judgment:

- A five-judge Constitution Bench, led by Chief Justice of India Dipak Misra held that adultery is not a crime and struck it off the IPC.

> In case of adultery, criminal law expects people to be loyal which is a command which gets into the realm of privacy — CJI DIPAK MISRA

> Section 497 perpetuates subordinate status of women, denies dignity, sexual autonomy... is based on gender stereotypes — JUSTICE D.Y. CHANDRACHUD

> Ancient notions of man being perpetrator and woman being victim no longer hold good — JUSTICE ROHINTON NARIMAN

> Adultery could be a moral wrong towards spouse and family but the question is whether it should be a criminal offence — JUSTICE INDU MALHOTRA

- The court held that Section 497 violates Article 14, Article 15 and Article 21 of the constitution.

1. Article 14: It ruled that Section 497 is arbitrary as it punishes only men for adultery

2. Article 15: Section 497 discriminates on the ground of sex, as it treats wife as husband's property.

3. Article 21: Since Section 497 forces married couples to be loyal with each other it violates privacy.

- The court ruled that adultery could be a moral wrong but criminalizing adultery is too harsh.
- It ruled that dealing with adultery is the private matter of the couple.
- The court observed that there is no data to prove that abolition of adultery would increase infidelity or divorce rate.
- The court ruled that curtailing sexual autonomy of woman is antithetical to the constitution.
- Court also struck down Section 198(2) of the CrPC under which the husband alone could complain against adultery.
- According to SC the provision of Section 497 is a reflection of the social dominance of men prevalent 150 years ago.

Significance of the verdict:

- Now adultery can only be ground for civil issues like divorce but it will not be a crime.
- With the decriminalization of adultery India has taken another step towards rights-based social relations, instead of a state-imposed moral order.
- It will end the gender discrimination in marriage and gives sexual autonomy to women.
- The verdict has brought India into the company of countries that no longer consider adultery an offence.

11. Assam to launch wage compensation scheme for pregnant women in tea gardens

Context:

Assam Government has become the first Indian state to offer a Wage Compensation Scheme for pregnant women working in the tea gardens of the state.

- **Aim:** The scheme is aimed at providing better health and nutrition supplements to the pregnant women. It stresses on providing proper healthcare facilities to the pregnant women working in the tea gardens of the state.

- Under the scheme, an amount of Rs 12,000 will be given to the pregnant women so that they can take care of themselves and the unborn baby without compromising the livelihood of their family.

- The compensation of wages to pregnant women will be given in 4 instalments – Rs 2,000 in the first trimester, Rs 4,000 in the second trimester, Rs 3,000 for institutional delivery and Rs 3,000 for registration of the child's birth.

- The women would also be given a maternity leave. They will not be engaged in work from the third trimester of pregnancy to three months after delivery.

- In addition, they will get assistance for ante-natal care and the first cycle of immunization of the child.

Significance:

- The scheme is likely to benefit over 60,000 women in the state. It is expected to reduce maternal and neonatal mortality in the tea areas.

Background:

- The maternal mortality rate of women working in the tea plantations of Assam is unusually high. In the Annual Health Survey of 2012-13, Assam recorded one of the highest maternal mortality rates in India, with over 300 maternal deaths per 100,000 live births. The MMR in the state's tea gardens was even higher, as it was recorded to be 404. The national average during 2014-16 was 130.

- Also, almost 50% of the pregnant women aged between 15 and 49 years in the state were recorded to be anaemic, which is a leading contributor to maternal mortality. The bulk of the workforce in Assam's tea gardens is women.

12. Too little cleanliness and too much godliness

Context:

Prime Minister Narendra Modi's flagship programme Swachh Bharat Abhiyan (SBA) inaugurated in, 2014, celebrating its fourth anniversary. He

announced that by 2 October 2019, the 150th birth anniversary of Gandhi, India will be open defecation free.

Swachh Bharat initiative:

- Swachh Bharat Abhiyan is a campaign which was launched on 2 October 2014, and aims to eradicate open defecation by 2019, and is a national campaign, covering 4,041 statutory cities and towns.

- Its predecessors were the "Nirmal Bharat Abhiyan" and before that the "Total Sanitation Campaign".

- It is reported that the idea was developed and initiated in March 2014 after a sanitation conference was organised by UNICEF India and the Indian Institute of Technology as part of the larger Total Sanitation Campaign, which the Indian government launched in 1999.

- The government is aiming to achieve an Open-Defecation Free (ODF) India by 2 October 2019, the 150th anniversary of the birth of Mahatma Gandhi, by constructing 12 million toilets in rural India.

Critical side of Swachh Bharat initiative:

- In 2014, about 61.7% of all Indians defecated in the open. Today, that number, according to the government, is 5.45%. This large reduction has come from constructing 86.6 million toilets across India.

- The SBA claims that 25 states and Union territories are now completely open defecation free.

- These numbers on the construction of toilets were based on a 2012 list of households. However, the CAG report this year has found otherwise. Out of the 54,008 households in test-checked villages, only 38,280 (71%) households have access to toilets.

- Many of the districts lacking access are dominated by tribal communities.

- In a third of the testchecked villages, the toilets constructed under the SBA were unusable because of the lack of water connections and soak pits or sewage connections.

- The report also found that Uttarakhand is not open defecation free as claimed by the government.

Reasons for failure of Swachh Bharath Mission:

Taboo of Caste and untouchability:

- The main reason for this failure is equating the availability of a toilet with the preference to not defecate in the open. Even when toilets are provided for free by the government, Indians prefer defecating in the open to using basic latrines.

- As basic latrines need to be emptied out manually or pumped by simple machines, they are unacceptable to upper caste Hindus.

- Dealing with human feces is considered polluting and is historically associated with untouchability. Indians are unlikely to use toilets without a water connection, or a soak pit, or a sewage system, to easily deal with the waste.
- Any manual pumping of waste is unacceptable and unlikely. If India constructs sewage and waste management systems, open defecation will automatically reduce and eventually be eliminated.

Manual scavenging:

- A second failure with this increase in the construction of toilets and a campaign to end open defecation is that this takes place within a caste stranglehold.
- Manual scavenging, which was outlawed in 1993 is very much present. Dalit communities who historically engaged in manual scavenging are once again being forced to do the same job.
- Upper castes, and even other higher caste Dalits, force these jobs on them. The SBA provides no contracted jobs to these scavengers to deal with the waste, nor does it provide equipment, or safe working conditions.
- Unfortunately, because of the lack of capacity of sewage systems, manual scavengers are routinely used by the government to enter the sewage system and clear blockages.
- As these workers are contracted by private parties, they are not government employees and do not receive any safety equipment or health services while doing such a hazardous job.
- They are, however, often part of the Safai Karamchari Andolan, a body that is so driven by caste hierarchies, that 'higher up' Dalits often force those historically associated with manual scavenging to only do those jobs and not move to any other kind of cleaning jobs like sweeping and garbage collection.

Sewage and waste management:

- The third failure is that if toilets are actually used for defecation, which then enters a sewage system, there is still a problem of dumping untreated waste in landfills and rivers.
- Indian rivers have reached high levels of toxicity because of untreated human and industrial waste being dumped in staggering quantities.

Way forward:

To solve all these failures, India needs a waste management system and not a single one, but multiple kinds of waste management systems to deal with local conditions. Defecation is not a problem only when it's in the open. Untreated waste handled by humans without safety gear leads to fatalities, and when dumped in rivers increases infant mortality, reduces life expectancy, and overall health outcomes.

13. Karnataka Good Samaritan Bill

Context:

The president has given his asset to the Karnataka Good Samaritan and Medical Professional (Protection and Regulation during Emergency Situations) Bill, 2016.

About the Bill:

- The legislation aims to give protection to good samaritans and ensure immediate medical assistance for road accident victims within the 'golden hour' and encourage people to offer first aid to victims without fear of harassment in the hands of police and investigations.

- Under the new law, the Karnataka government will provide financial help to good samaritans who help victims in a timely manner, they will be exempted from repeated attendance in courts and police stations, in case attendance is mandatory, expenses of such "running around to courts and police stations" will be taken care through the proposed 'Good Samaritan Fund'.

- After admitting the accident victim to the hospital, the good samaritan can leave immediately, all government as well as private hospitals are bound to give first aid to the accident victims.

Significance:

- With this, Karnataka has become the first state to give legal protection to good samaritans through a legislation amidst the rising incidents of accidental deaths in India, which saw 1,50,785 people getting killed in road accidents in 2016.

- In medical terms, the 'golden hour' is the first hour after a traumatic injury when emergency treatment is very crucial.

Need for legal protection:

- There were 4,80,652 road accidents in the country in 2016 in which 1,50,785 people were killed. In 2015, there were 5,01,423 road accidents in the country in which 1,46,133 people were killed.

- There is no central law to protect the good samaritans. However, the Union Surface Transport Ministry had issued a set of guidelines in 2015 following a Supreme Court order to protect the good samaritans.

- There have been many instances when people get busy in clicking photos or making videos of the victims, instead of providing the accident victims medical help. With the new law, there will be clear message that good samaritans will not be harassed in any manner.

- Karnataka is one of the top five states which saw a large number of people getting killed in road accidents in 2016 and 2015.

International Relations

14. GCTF Terrorist Travel Initiative

Context:

United States and Morocco have launched GCTF Terrorist Travel Initiative under auspices of Global Counterterrorism Forum (GCTF). It was launched on sidelines of United Nations General Assembly (UNGA) session in New York.

GCTF Terrorist Travel Initiative:

- The initiative brings together stakeholders to share expertise on developing and implementing effective counterterrorism watch listing and screening tools.

- The new initiative will strengthen UNSC Resolution 2396 aiming to stop terrorist travel altogether. It will improve capabilities for detecting and interdicting terrorist travel through enhanced terrorist screening and information sharing.

- It will bring together national and local governments, law enforcement and border screening practitioners and international organizations to share expertise to develop and implement effective counterterrorism watchlisting and screening tools.

- Under this initiative, series of four regional workshops in 2018 and 2019 will be convened to develop set of good practices that will be endorsed at 2019 GCTF Ministerial. The resulting document will reinforce countries and organizations to use border security tools prescribed in UNSC Resolution 2396 to stop terrorist travel.

Global Counterterrorism Forum (GCTF):

- GCTF's is international apolitical, multilateral counter-terrorism (CT) platform of 29 countries and European Union (EU) with overarching mission of reducing vulnerability of people worldwide to terrorism by preventing, combating, and prosecuting terrorist acts and countering incitement and recruitment to terrorism. It was launched officially in New York on 22 September 2011.

- GCTF's goal is to strengthen capabilities to develop strategic, long-term approach to counter terrorism and prevent violent extremist ideologies that underpin it. Its mission is to diminish terrorist recruitment and increase countries' civilian capabilities for dealing with terrorist threats within their borders and regions.

15. 'Comprehensive Convention on International Terrorism' (CCIT)

Context:

External Affairs Minister Sushma Swaraj reiterated India's demand for a Comprehensive Convention on International Terrorism (CCIT) at the UN General Assembly recently.

Background:

- As a country affected by terrorism, long before the more powerful countries of the developed world began to take cognisance of the threat it poses to international peace and security, India has always condemned terrorism in all its forms and manifestations; stressed that tackling such behaviour required a holistic approach and collective action; and recommended that the scope of legal instruments must be expanded to bring the perpetrators of terrorism to justice.

- India, therefore, has a vital stake in the formulation of counter-terrorist measures at the international level, including a Comprehensive Convention on International Terrorism (CCIT). It is in this context that India had proposed a draft of a CCIT as far back as 1996.

CCIT:

- The Comprehensive Convention on International Terrorism is a proposed treaty which intends to criminalize all forms of international terrorism and deny terrorists, their financiers and supporters access to funds, arms, and safe havens. It is a draft proposed by India in 1996 that is yet to be adopted by the UNGA.

What does it call for?

- Universal definition of terrorism: no good terrorist or bad terrorist.
- Ban on all groups regardless of country of operation, cut off access to funds and safe havens.
- Prosecution of all groups including cross border groups.
- Amending domestic laws to make cross-border terror an extraditable offence.
- It also addresses, among other things, the issue of Pakistan's alleged support for cross-border terrorism in south Asia.

Concerns expressed by various countries:

- US + allies: concerns over definition of terrorism, including acts by US soldiers in international interventions without UN mandate.
- Latin American countries: concerns over international humanitarian laws being ignored.
- There are also concerns that convention will be used to target Pakistan and restrict rights of self-determination groups in Palestine, Kashmir etc.

Economy

16. Asian Development Bank (ADB)

Context:

The Asian Development Bank (ADB) and the Government of lndia have signed a $150 Million Loan to finance continued improvements to road connectivity and efficiency of the International Trade Corridor in West Bengal and North-Eastern Region of lndia.

- South Asia Sub-regional Economic Cooperation Road Connectivity lnvestment Program, approved in 2014, aims to expand about 500 kilometers of roads in lndia's North Bengal and North-Eastern Region that will enable efficient and safe transport within lndia and regionally with other SASEC member countries.

- The Program is an important initiative in Regional Connectivity aimed at increasing domestic and regional trade through North Bengal-North East Region International Trade corridor by upgrading key roads.

Significance of the project:

- The Project will upgrade about 65 kilometers of lmphal-Moreh Section of National Highway in Manipur, construction of about 1.5 km of an international bridge between lndia and Nepal, and completion of about 103 km of a State Highway in Manipur between lmphal and Tamenglong under Project-I.

- The Project will reduce transaction costs along the targeted cross-border corridors substantially, creating economies of scale and commercial prosperity.

Background:

- Manipur being a landlocked state with almost 90% of the area under difficult terrain presently has only road transport as a means of mass transport system within the state. Hence development of the road infrastructure is of paramount importance to improve connectivity and progress of the State and to ensure that the administrative set up reaches the isolated and remote habitats.

About SASEC:

- The SASEC programme of ADB was formed in 2001 in response to the request of Bangladesh, Bhutan, India and Nepal to assist in facilitating economic cooperation among them. Sri Lanka and Maldives joined the sub-regional group in 2014.

- As a project-based partnership, SASEC programme has been helping enhance cross-border connectivity, facilitate faster and more efficient trade and promote cross-border power trade.

- The Manila, Philippines-based Asian Development Bank (ADB) serves as the Secretariat for the SASEC member countries.

17. Pradhan Mantri Fasal Bima Yojna (PMFBY)

Context:

Gram Sabhas across the country have been asked to inform the farmers about the enrolment and benefits of Pradhan Mantri Fasal Bima Yojan (PMFBY) at the beginning of the Rabi Season. The Gram Sabhas will also inform the farmers on how they can insure their crops under the Scheme.

- The Ministry of Agriculture and Farmers' Welfare has requested the Ministry of Panchayati Raj and the State Governments to include this as an agenda in the upcoming Gram Sabhas, especially for the one scheduled on 2nd October 2018, in connection with Gandhi Jayanti.
- This is as part of the awareness initiatives taken up at various levels by the Govt and Insurance Companies to create awareness about the Scheme and mobilise farmers to insure their crops.

About PMFBY:

- In April, 2016, the government of India had launched Pradhan Mantri Fasal Bima Yojana (PMFBY) after rolling back the earlier insurance schemes viz. National Agriculture Insurance Scheme (NAIS), Weather-based Crop Insurance scheme and Modified National Agricultural Insurance Scheme (MNAIS).
- Premium: It envisages a uniform premium of only 2% to be paid by farmers for Kharif crops, and 1.5% for Rabi crops. The premium for annual commercial and horticultural crops will be 5%.
- The scheme is mandatory for farmers who have taken institutional loans from banks. It's optional for farmers who have not taken institutional credit.

Objectives:

- Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events.
- Stabilizing the income of farmers to ensure their continuance in farming.
- Encouraging farmers to adopt innovative and modern agricultural practices.
- Ensuring flow of credit to the agriculture sector which contributes to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

18. Open Acreage Licensing Programme (OALP)

Context:

Government of India recently signed the contracts of the blocks awarded under the Open Acreage Licensing Programme (OALP) Bid Round-I with the awardees.

Significance:

- Initially, 110 e-bids were received for 55 blocks on offer with participation from 9 companies, singly or in consortium. Finally, contracts have been signed for all 55 blocks with 6 companies.
- This will add a huge accretion of 59,282 sq.km to the exploration area. This is about 65% of the area presently under exploration in the country. This will lead to significant increase in E&P activities in India and in long run discoveries from these field may significantly boost domestic production.

Background:

- The bid round-I of OALP was launched in January 2018 under the liberalized Hydrocarbon Exploration and Licensing Policy (HELP). It is for the first time that bidding in the E&P sector in India was for blocks that had been selected by bidders themselves with government playing a facilitator role.

Open Acreage Licensing Policy (OALP):

- The OALP, a part of the government's Hydrocarbon Exploration and Licensing Policy (HELP), gives exploration companies the option to select the exploration blocks on their own, without having to wait for the formal bid round from the Government. The company then submits an application to the government, which puts that block up for bid. The new policy will open up 2.8 million square kilometres of sedimentary basins for exploration and eventual production.

About Hydrocarbon Exploration & Licensing Policy (HELP):

- The Hydrocarbon Exploration & Licensing Policy (HELP) opens up India' entire sedimentary basin for investment from domestic and foreign players under a simplified, transparent and investor -friendly fiscal and administrative regime.
- The new policy aims to provide Investors a ready access to huge amount of seismic data available in National Data Repository (NDR), flexibility to carve out exploration acreages through an open acreage licensing process and increased operational autonomy through a new revenue sharing model.
- The National Data Repository (NDR) manifested through an open acreage licensing (OAL) process will be a key facilitator by providing seamless access to India's entire E&P data process through a digital medium to all investors with the objective of harnessing the potential of India's large basinal area.

Way ahead:

- Open Acreage Licensing Policy and the National Data Repository together are a significant and welcome step towards opening up the hydrocarbon exploration and production industry in India. By placing

greater discretion in the hands of explorers and operators, the Licensing Policy attempts to address a major drawback in the New Exploration Licensing Policy, which forced energy explorers to bid for blocks chosen by the government. Such initiatives help India attract enough investment to meet the government's objective of reducing oil imports by 10% by 2022.

- There's a compelling opportunity for gas, which India must seize to reduce import dependency and shift to a lower carbon trajectory. HELP is more about gas than oil. While the overall thrust is positive, concerns regarding the contractual regime and gas pricing formula remain, and will need to be addressed.

19. Think big: on import duty hike

Introduction

- The government released a list of categories of items on which it would be hiking import duties.
- This includes white goods such as air-conditioners, refrigerators and washing machines as well as non-essential items such as gems, travel bags and aviation turbine fuel (ATF).
- The Centre's decision to increase customs duty on imports of 19 "non-essential" items amounts to tinkering at the margins to address a structural macro-economic issue.
- Using tariffs to curb imports of these items will not have a significant impact on narrowing the current account deficit (CAD), which is the Centre's stated objective.

Current account deficit

- The current account measures the flow of goods, services and investments into and out of the country.
- We run into a deficit if the value of the goods and services we import exceeds the value of those we export.
- The current account includes net income, including interest and dividends, and transfers, like foreign aid.
- India's current account deficit (CAD) is pegged at $13 billion or 1.9% of the GDP in Q4 of 2017-18, which increased from $2.6 billion or 0.4% of the GDP in Q4 of 2016-17.
- However, the CAD moderated marginally from $13.7 billion (2.1% of GDP) in the preceding quarter.
- The Reserve Bank of India attributed the widening of the CAD to a higher trade deficit ($41.6 billion) brought about by a larger increase in merchandise imports related to exports.
- The central bank wants to see the current account gap within 2.5% of the GDP, which is seen as crucial for currency stability.

- For example, the CAD touched a high of 4.8% of the GDP in 2012-13 on rising gold and oil imports, which also impacted the rupee that depreciated rapidly.

Why import duties will not have sufficient impact on CAD?

- The aggregate value of these imported items was just ₹ 86,000 crore, constitution a little less than 3% of the country's merchandise import bill in 2017-18.

- With the first six months of the current fiscal having elapsed, the impact of this tariff increase in paring the import bill and thus containing the CAD is at best going to be short-term and marginal.

- On the other hand, the decision to double import duties on a clutch of consumer durables to 20% could dampen consumption of these products, especially at a time when the rupee's slide against the dollar is already likely to have made these goods costlier.

- Here, it would be interesting to see if the government's move turns into a psychological 'tipping point' that ends up altering consumption behavior towards this category of imported merchandise.

- If it does, that could have the salutary effect of fostering greater investment in the domestic production of some of these goods.

- The tariff on aviation turbine fuel — which will now attract 5% customs duty instead of nil — may add to the stress of domestic airline operators, the rupee and rising oil prices having already hurt their wafer-thin margins.

Way forward

- A more robust approach in addressing the widening CAD would be to institute wide-ranging measures to boost exports and simultaneously reduce the import-intensity of the economy.

- Policymakers must renew efforts to ensure that export growth starts outpacing the expansion in merchandise imports.

- This includes expediting the refunds on GST to exporters — smaller exporters have been badly hit by working capital shortfalls.

- Also to working to woo some of the labour-intensive supply chains that are moving out of China to countries such as Vietnam and Bangladesh.

- On import substitution, it is an irony that despite the abundance of coal reserves, thermal coal is one of India's fastest-growing imports.

- This is a consequence of under-investment in modernizing the entire coal production and utilization chain and must be addressed expeditiously.

- With global crude oil prices showing no signs of reversing their upward trajectory, and the sanctions on Iran that may force India to look for

other suppliers looming, the government will need to act post-haste to address structural imbalances to keep the CAD from widening close to or even exceeding the 3% of GDP level.

20. Limited Liability Partnership (LLP)

Context:

Ministry of Corporate Affairs has launched a process re-engineering by making incorporation of Limited Liability Partnership (LLP) through a complete online system- titled "RUN-LLP (Reserve Unique Name – Limited Liability Partnership)".

Details:

- LLP is an alternative corporate business form that gives the benefits of limited liability of a company and the flexibility of a partnership. The LLP can continue its existence irrespective of changes in partners. It is capable of entering into contracts and holding property in its own name.

- The LLP is a separate legal entity, is liable to the full extent of its assets but liability of the partners is limited to their agreed contribution in the LLP. Further, no partner is liable on account of the independent or un-authorized actions of other partners, thus individual partners are shielded from joint liability created by another partner's wrongful business decisions or misconduct.

- Mutual rights and duties of the partners within a LLP are governed by an agreement between the partners or between the partners and the LLP as the case may be. The LLP, however, is not relieved of the liability for its other obligations as a separate entity. Since LLP contains elements of both 'a corporate structure' as well as 'a partnership firm structure' LLP is called a hybrid between a company and a partnership.

LLP form is a form of business model which:

- Is organized and operates on the basis of an agreement.
- Provides flexibility without imposing detailed legal and procedural requirements.
- Enables professional/technical expertise and initiative to combine with financial risk taking capacity in an innovative and efficient manner.

21. National Company Law Tribunal (NCLT)

Context:

The Central Government has constituted National Company Law Tribunal (NCLT) under section 408 of the Companies Act, 2013 (18 of 2013) w.e.f. 01st June 2016.

About NCLT:

NCLT is a quasi-judicial body, exercising equitable jurisdiction, which was earlier being exercised by the High Court or the Central Government. The Tribunal has powers to regulate its own procedures.

The establishment of the National Company Law Tribunal (NCLT) consolidates the corporate jurisdiction of the following authorities:

1. Company Law Board
2. Board for Industrial and Financial Reconstruction.
3. The Appellate Authority for Industrial and Financial Reconstruction.
4. Jurisdiction and powers relating to winding up restructuring and other such provisions, vested in the High Courts.

Powers of NCLT

The NCLT has been empowered to exercise the following powers:

1. Most of the powers of the Company Law Board under the Companies Act, 1956.
2. All the powers of BIFR for revival and rehabilitation of sick industrial companies;
3. Power of High Court in the matters of mergers, demergers, amalgamations, winding up, etc.;
4. Power to order repayment of deposits accepted by Non-Banking Financial Companies as provided in section 45QA of the Reserve Bank of India Act, 1934;
5. Power to wind up companies;
6. Power to Review its own orders.

The NCLT shall have powers and jurisdiction of the Board for Industrial and Financial Reconstruction (BIFR), the Appellate Authority for Industrial and Financial Reconstruction (AAIFR), Company Law Board, High Courts relating to compromises, arrangements, mergers, amalgamations and reconstruction of companies, winding up etc. Thus, multiplicity of litigation before various courts or quasi-judicial bodies or forums have been sought to be avoided. The powers of the NCLT shall be exercised by the Benches constituted by its President.

22. International Court of Justice

Context:

International Court of Justice has ordered the United States to lift sanctions on Iran that affect imports of humanitarian goods and products and services linked to the safety of civil aviation. The ruling by the International Court of Justice (ICJ) is legally binding.

- Mr. Trump moved to restore tough U.S. sanctions in May after withdrawing from Tehran's nuclear accord with world powers. Iran challenged the sanctions in a case filed in July at the ICJ.

Why lift imposed sanctions?

- The U.S. sanctions "have the potential to endanger civil aviation safety" in Iran and sanctions limiting sales of goods required for humanitarian needs such as food, medicines and medical devices "may have a serious detrimental impact on the health and lives of individuals on the territory of Iran."

About ICJ:

- The International Court of Justice (ICJ) is the principal judicial body of the UN. Established in 1946 to replace the Permanent Court of International Justice, the ICJ mainly operates under the statute of its predecessor, which is included in the UN Charter.

- It has two primary functions: to settle legal disputes submitted by States in accordance with established international laws, and to act as an advisory board on issues submitted to it by authorized international organizations.

Members of the Court:

- The International Court of Justice is composed of 15 judges elected to nine-year terms of office by the United Nations General Assembly and the Security Council. These organs vote simultaneously but separately. In order to be elected, a candidate must receive an absolute majority of the votes in both bodies. In order to ensure a measure of continuity, one third of the Court is elected every three years. Judges are eligible for re-election.

Who nominates the candidates?

- Every state government, party to the Charter, designates a group who propose candidates for the office of ICJ judges. This group includes four members/jurists of the Permanent Court of Arbitration (machinery which enables arbitral tribunals to be set up as desired and facilitates their work) also picked by the State. Countries not part of the statute follow the same procedure where a group nominates the candidates.

- Each group is limited to nominate four candidates, two of whom could be of their nationality. Within a fixed duration set by the Secretary-General, the names of the candidates have to be sent to him/her.

What are the qualifications of ICJ judges?

- A judge should have a high moral character.

- A judge should fit to the qualifications of appointment of highest judicial officers as prescribed by their respective states or.

- A judge should be a juri-consult of recognized competence in international law.

The 15 judges of the Court are distributed as per the regions:
- Three from Africa.
- Two from Latin America and Caribbean.
- Three from Asia.
- Five from Western Europe and other states.
- Two from Eastern Europe.

Independence of the Judges:
- Once elected, a Member of the Court is a delegate neither of the government of his own country nor of that of any other State. Unlike most other organs of international organizations, the Court is not composed of representatives of governments. Members of the Court are independent judges whose first task, before taking up their duties, is to make a solemn declaration in open court that they will exercise their powers impartially and conscientiously.
- In order to guarantee his or her independence, no Member of the Court can be dismissed unless, in the unanimous opinion of the other Members, he/she no longer fulfils the required conditions. This has in fact never happened.

23. Udyam Abhilasha

Context:

It is a National Level Entrepreneurship Awareness Campaign launched by Small Industries Development Bank of India (SIDBI) on the occasion of Birth Anniversary of Mahatma Gandhi.
- The campaign has been launched in 115 Aspirational Districts identified by NITI Aayog in 28 States.
- The campaign would create and strengthen cadre of more than 800 trainers to provide entrepreneurship training to the aspiring youths across these districts thus encouraging them to enter the admired segment of entrepreneurs.
- SIDBI has partnered with CSC e-Governance Services India Limited, a Special Purpose Vehicle, (CSC SPV) set up by the Ministry of Electronics & IT, Govt. of India for implementing the campaign through their CSCs.

The objectives of the missionary campaign include:
- To inspire rural youth in aspirational districts to be entrepreneurs by assisting them to set up their own enterprise.
- To impart trainings through digital medium across the country.
- To create business opportunities for CSC VLEs.
- To focus on women aspirants in these aspirational districts to encourage women entrepreneurship.

- To assist participants to become bankable and avail credit facility from banks to set up their own enterprise.

About SIDBI:

- Small Industries Development Bank of India (SIDBI) was set up on 2nd April 1990 under an Act of Parliament.
- It acts as the Principal Financial Institution for Promotion, Financing and Development of the Micro, Small and Medium Enterprise (MSME) sector as well as for co-ordination of functions of institutions engaged in similar activities.

24. India's urban mobility and congestion problem

Context:

- Traffic congestion has increased dramatically in India.
- Congestion and the associated slow urban mobility can have a huge adverse impact on both the quality of life and the economy
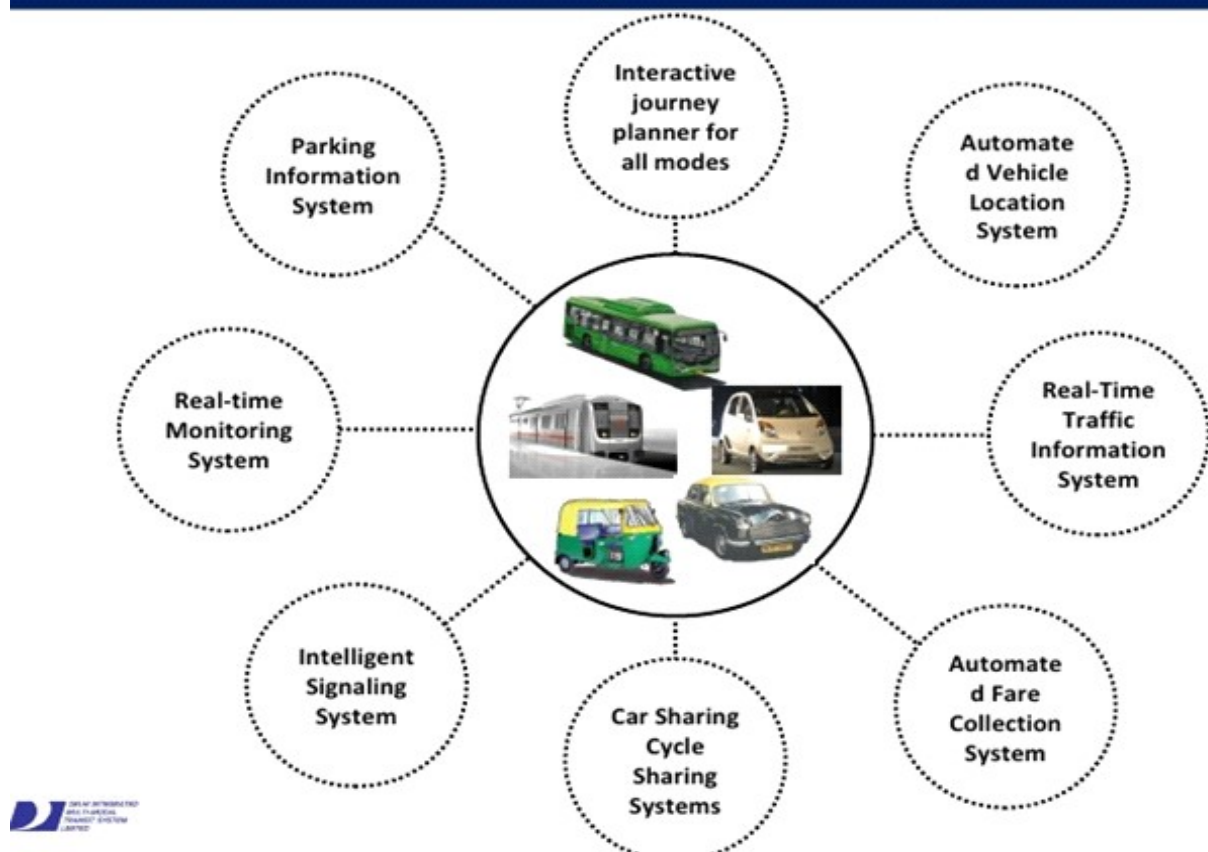
Understanding the problem of Congestion:

- Our understanding of the **underlying reasons for congestion** is still evolving.
- A popular view is that **urbanization** leads to **ever larger cities** and **increased rates of motorization**. These two features eventually lead to a **complete gridlock and congestion**.

- However, economic growth also brings about **better travel infrastructure**, which facilitates uncongested mobility and increases the pace of urban mobility.

- Indian cities have experienced both these trends. These changes are taking place at a **much faster pace in India** than in the UK and the US.

- Transportation investments constitute the largest component of lending of many global development institutions.

- **Data on urban transportation in India** is scarce. In the UK and the US, **knowledge on urban mobility and congestion** stems from surveys of household travel behaviour.

- However, such surveys are prohibitively expensive to carry out in India. We used other methods **to examine urban mobility and congestion**.

- World Bank used a **popular web mapping** and **transportation service** to generate information for **more than 22 million trips across 154 large Indian cities**.

- The **multi-purpose nature of urban transport** also **impacts urban mobility** in India.

Policy challenge that need to be addressed by Area-Specific Approach:

- The unique Indian travel patterns imply that **country-specific and city-level policies are necessary.**

- Standard policy recommendations such as congestion pricing or other types of travel restrictions may do little to improve mobility.

- Instead, **potentially costly travel infrastructure investments** may be the only way to improve uncongested mobility.

- **Better uncongested mobility** generally correlates with the **process of faster economic growth.**

- **Slow urban mobility in India** is primarily due to cities being slow all the time, rather than congested at peak hours. However, congestion is not a nationwide problem. It is concentrated near the **centre of the largest Indian cities**.

- Given their importance to the Indian economy, these areas with the highest levels of congestion, such as the city centres of Kolkota and Bengaluru, should be the **focus of policy efforts to alleviate congestion.**

Some of the solutions are given below:

Any solution is expected to be successfully implemented; it will definitely require effort and planning on a huge scale. This is especially for when we are coming up with plans which can reach the entire country.

- Corruption will have to be curbed, and it will be extremely vital that the raw material is of the highest quality are used for the longevity and strength of the roads.

- Road pricing system – people should be charged based on the length of the road and the duration for which they use the road. This will be difficult to implement and will require huge technological investment to become possible.

- Improvement in public transport and additional schemes like BRT. The Bus Rapid Transport is implemented in some cities like Pune, and it can be very helpful if implemented correctly.

- People should try and use carpooling and bike pooling as much as possible. Use of bicycles for smaller distances also improves individual health along with reducing pollution and road congestion.

- Strict and stringent measures against traffic violators. A regulation in the traffic rules and fines levied for breaking them.

- Metro can play a huge role in improving the traffic issues to a great extent. If Nagpur metro becomes successful, it will pave the way for implementation in other cities as well which can be very beneficial.

- Increase in the use of CNG and electrical vehicles and providing relief to those who use the same.

Way forward:

- **Investment in urban transport** also plays an important role in influencing property prices.

- A deeper understanding of the interactions between urbanization, urban mobility and congestion will help improve investments in transport and city competitiveness.

- Recently, the odd-even scheme devised by the Delhi CM created a lot of buzz, but did not seem enough, unless it is supported by other grass root level measures.

- More primary roads and regular grid patterns are need to be associated with faster urban mobility.

- There can be an **80% cut in CO2 emissions** if cities embrace **3 revolutions (3R)** in vehicle technology: automation, electrification, and, most importantly, ride sharing.

- It's time that city leaders and officers in India recognize the benefits of sustainable mobility and incorporate well-defined strategies and policies into their own public agendas. The future of their economies and their citizens depends on it.

Geography and Environment

25. UN Sustainable Development Framework (UNSDF)

Context:

NITI Aayog and United Nations in India have signed Sustainable Development Framework for 2018-2022.

What is UN Sustainable Development Framework (UNSDF)?

- UNSDF 2018-2022 outlines development cooperation strategy between Union Government and United Nations Country Team in India in support of achievement of India's key national development priorities and Sustainable Development Goals (SDGs).

- It was framed following highly participative process, in consultation with government entities, civil society representatives, academia, and private sector.

- Focus areas under it include poverty and urbanization, health, water, and sanitation, education, climate change, nutrition and food security, clean energy, and disaster resilience; skilling, entrepreneurship, job creation, gender equality and youth development.

- UNSDF also includes set of UN flagship programs that are aligned with major government schemes. These flagship programs will be scalable innovative, multi-sectoral solutions to some of most pressing development challenges that India faces and also serve as catalysts for increased investment of development finance.

- UNSDF programmes range from affordable housing for poor to increasing access to clean energy in rural off-grid areas, protecting all children from vaccine-preventable diseases, providing quality education for all children and skilling for young people, especially young girls and ending stunting to improving child sex ratio.

Support:

- Across these outcome areas, UN will support Union Government in south-south cooperation in partnership with Ministry of External Affairs (MEA). The total planned budget outlay for implementation of UNSDF is approximately Rs. 11000 crore, of which 47% is planned to be mobilized through course of implementation from multiple sources, including private sector and government.

Targets:

- The programmatic work outlined in UNSDF targets seven low-income states viz. Bihar, Jharkhand, MP, Odisha, Rajasthan, Chhattisgarh and UP along with North-East region and aspirational districts identified by the NITI Aayog. It will work on improving lives of most marginalized, poor, and vulnerable communities and people in the country, especially women and girls.

26. World Habitat Day

The United Nations designated the first Monday of October of every year as World Habitat Day to reflect on the state of our towns and cities, and on the basic right of all to adequate shelter. The Day is also intended to remind the world that we all have the power and the responsibility to shape the future of our cities and towns.

- 2018 theme: Municipal Solid Waste Management. The focus of this year's World Habitat Day celebrations is taking action to address the municipal solid waste management challenge. This year's theme is Municipal Solid Waste Management with a slogan Waste-wise cities.

- The purpose of World Habitat Day is to reflect on the state of our towns and cities, and on the basic right of all to adequate shelter. It is also intended to remind the world that we all have the power and the responsibility to shape the future of our cities and towns.

- World Habitat Day was established in 1985 by the United Nations General Assembly through Resolution 40/202, and was first celebrated in 1986.

27. IUCN threat categories

Context:

Scientists have identified the threat status of 59 Indian plant species based on criteria used by the International Union for Conservation of Nature (IUCN), in the hope that this "streamlines" conservation efforts for the plants.

- Around 2,700 plant species in India are at risk but very few have been assessed by the IUCN. To bridge this gap, experts from several institutes prioritized 59 plant species that are at risk of "elimination" if the threat levels they face are not assessed soon. They assigned each species a threat status based on IUCN criteria.

- This included the extent and area of each plant's geographical range, which revealed that 10 species are critically endangered, 18 endangered, six vulnerable, five near threatened and one species each are data deficient and least concern.

Causes for decline in population:

- Based on population sizes and numbers of mature individuals remaining in the wild (using field surveys that also revealed that habitat loss was a huge factor affecting many declining plant populations), the team classified 10 species as critically endangered, three as endangered and five as vulnerable. Germination tests in the laboratory also suggest that factors such as low seed viability could have caused declines in the wild too.

Why quantify threat levels?

- Quantifying threat levels of species can be crucial for their conservation. For instance, funding agencies often consider the threat status of species provided in IUCN's Red List (a catalogue of the world's threatened species), to sponsor research and conservation activities to save them.

IUCN- key facts:

- IUCN was founded in October 1948 as the International Union for the Protection of Nature (or IUPN) following an international conference in Fontainebleau, France.

- It was renamed as International Union for Conservation of Nature and Natural Resources in 1956 with the acronym IUCN.

- IUCN is the world's first global environmental organization. Today it is the largest professional global conservation network

- The Union's HQ is located in Gland, near Geneva, in Switzerland.

- It demonstrates how biodiversity is fundamental to addressing some of the world's greatest challenges such as climate change, sustainable development and food security.

- The IUCN Red List is set upon precise criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. The aim is to convey the urgency of conservation issues to the public and policy makers, as well as help the international community to try to reduce species extinction.

- Species are classified by the IUCN Red List into nine groups, set through criteria such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

28. Mahatma Gandhi International Sanitation Convention

Context:

Mahatma Gandhi International Sanitation Convention is being held in New Delhi.

Mahatma Gandhi International Sanitation Convention:

- The Mahatma Gandhi International Sanitation Convention is being organised by the Ministry of Drinking Water and Sanitation to mark the beginning of the 150th birth anniversary celebrations of Mahatma Gandhi, also coinciding with the fourth anniversary of the launch of Swachh Bharat Mission.

- Ministers from over 70 countries will be invited and taken on a 'Gandhi Trail' in Gujarat.

- The government will use the occasion to "showcase its performance" and "success story" in the Swachh Bharat programme in the past four

years, which was launched on October 2, 2014, and have a face-to-face dialogue with the world leaders to share their experiences on sanitation programmes.

SDG:

By 2030, the Sustainable Development Goals, specifically SDG #6, aim to reach everyone with sanitation, and halve the proportion of untreated wastewater and increase recycling and safe reuse.

The global sanitation crisis is reflected in the following facts, according to reports from the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF):

- Around 60% of the global population – 4.5 billion people – either have no toilet at home or one that doesn't safely manage excreta.
- 862 million people worldwide still practise open defecation.
- Billions of people use an unimproved source of drinking water with no protection against contamination from faeces.
- Globally, 80% of the wastewater generated by society flows back into the ecosystem without being treated or reused.
- Only 39% of the global population (2.9 billion people) use a safely-managed sanitation service, that is, excreta safely disposed of in situ or treated off-site.
- Combined with safe water and good hygiene, improved sanitation could prevent around 842,000 deaths each year.

Swachh Bharat Mission:

- The Government of India launched the Swachh Bharat Mission (SBM) on 2nd October 2014, with an aim to build a Clean and Open Defecation Free (ODF) India by 2nd October 2019, as a befitting tribute to Mahatma Gandhi on his 150th birth anniversary.
- Since the inception of the program, the rural sanitation coverage of India has increased significantly, from 39% in October 2014 to over 90% as of September 2018. Over 78 million household toilets have been constructed under the Mission. As a result, 25 States/Union Territories, over 513 districts, and 5,04,316 villages have declared themselves as free from open defecation.

29. Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative

Context:

The government has launched Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative to set up Compressed Bio-Gas (CBG) production plants and make available CBG in the market for use in automotive fuels.

About the initiative:

- The initiative is aimed at providing a Sustainable Alternative Towards Affordable Transportation (SATAT) as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.
- Compressed Bio-Gas plants are proposed to be set up mainly through independent entrepreneurs. CBG produced at these plants will be transported through cascades of cylinders to the fuel station networks of OMCs for marketing as a green transport fuel alternative.
- The entrepreneurs would be able to separately market the other by-products from these plants, including bio-manure, carbon-dioxide, etc., to enhance returns on investment.
- It is planned to roll out 5,000 Compressed Bio-Gas plants across India in a phased manner, with 250 plants by the year 2020, 1,000 plants by 2022 and 5,000 plants by 2025. These plants are expected to produce 15 million tonnes of CBG per annum, which is about 40% of current CNG consumption of 44 million tonnes per annum in the country.
- At an investment of approx. Rs. 1.7 lakh crore, this initiative is expected to generate direct employment for 75,000 people and produce 50 million tonnes of bio-manure for crops.

There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:

- Responsible waste management, reduction in carbon emissions and pollution.
- Additional revenue source for farmers.
- Boost to entrepreneurship, rural economy and employment.
- Support to national commitments in achieving climate change goals.
- Reduction in import of natural gas and crude oil.
- Buffer against crude oil/gas price fluctuations.

Significance:

- This move has the potential to boost availability of more affordable transport fuels, better use of agricultural residue, cattle dung and municipal solid waste, as well as to provide an additional revenue source to farmers.
- The initiative holds great promise for efficient municipal solid waste management and in tackling the problem of polluted urban air due to farm stubble-burning and carbon emissions. Use of CBG will also help bring down dependency on crude oil imports.

Background:

- Bio-gas is produced naturally through a process of anaerobic decomposition from waste / bio-mass sources like agriculture residue,

cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. After purification, it is compressed and called CBG, which has pure methane content of over 95%.

What is CBG?

- Compressed Bio-Gas is exactly similar to the commercially available natural gas in its composition and energy potential. With calorific value (~52,000 KJ/kg) and other properties similar to CNG, Compressed Bio-Gas can be used as an alternative, renewable automotive fuel. Given the abundance of biomass in the country, Compressed Bio-Gas has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.

- Compressed Bio-Gas can be produced from various bio-mass/waste sources, including agricultural residue, municipal solid waste, sugarcane press mud, distillery spent wash, cattle dung and sewage treatment plant waste. The other waste streams, i.e, rotten potatoes from cold storages, rotten vegetables, dairy plants, chicken/poultry litter, food waste, horticulture waste, forestry residues and treated organic waste from industrial effluent treatment plants (ETPs) can be used to generate biogas.

Way ahead:

- The potential for Compressed Bio-Gas production from various sources in India is estimated at about 62 million tonnes per annum. Going forward, Compressed Bio-Gas networks can be integrated with city gas distribution (CGD) networks to boost supplies to domestic and retail users in existing and upcoming markets.

- Besides retailing from OMC fuel stations, Compressed Bio-Gas can at a later date be injected into CGD pipelines too for efficient distribution and optimised access of a cleaner and more affordable fuel.

30. Modi pitches for global power grid, widens membership of solar alliance

Context:

Prime Minister Narendra Modi pitched for a global electricity grid while inaugurating the first general assembly of the International Solar Alliance (ISA)

Universalization of membership in ISA:

- India will move the proposal to make all United Nations members eligible for ISA in the general assembly of UN

- Initially, ISA envisaged 121 sunshine countries situated between the tropics of Cancer and Capricorn as its members.

- The amendment will also help induction of countries such as Germany, Italy, Spain, Tunisia, Nepal and Afghanistan, which have evinced interest in becoming ISA members.

- China and Pakistan showing interest in becoming members of the alliance. While 65 countries are signatories to the ISA framework agreement, 35 have ratified it.

India's concerns:

- India plans to reduce its carbon footprint by 33-35% from its 2005 levels by 2030, as part of its commitments to the United Nations Framework Convention on Climate Change adopted by 195 countries in Paris in 2015.

- With India and France front-ending the attempts to set up the ISA, it has become India's calling card on climate change and is increasingly being viewed as a foreign policy tool.

- This assumes significance in a country that is now the biggest emitter of greenhouse gases after the US and China, and is among countries most vulnerable to climate change.

- Prime Minister pitched for "one world, one-sun, one-grid" to harness the energy potential offered by the sun and added that there is a need to start thinking things anew. This comes against the backdrop of China's ambitious "One Belt One Road" (OBOR) initiative aimed at connecting countries across Asia, Africa and Europe.

- India has been playing a key role in creating new energy security architecture for its neighbors and has been championing for a South Asian Association for Regional Cooperation (SAARC) electricity grid that envisages meeting electricity demand in the region.

- ISA will play a similar role in the future that OPEC, which accounts for around 40% of global crude oil production, is playing today. With India being one of the major OPEC consumers, it has called for a global consensus on "responsible pricing" against the backdrop of rising global oil prices.

International Solar Alliance:

- International Solar Alliance or ISA consists of **121 countries**.ISA consists of most of those countries which are located between the tropic of cancer and tropic of Capricorn. These countries are located at the shortest distance from the Sun that is why solar energy is available in these quantities throughout the year. The ISA has set a **target of 1 TW of solar energy by 2030.**

- French Development Agency will allocate €300 million to developing solar energy over the next five years in order to finance the initial projects.

Objectives of International Solar Alliance:

1. The purpose of the International Solar Alliance is to bring such countries (which are located between the Tropics of Cancer and Capricorn) on a platform that supports clean energy, sustainable environment, clean public transport and clean climate.

2. This alliance wants to overcome the obstacles in the way of promoting solar energy.

3. ISA will promote the development and use of solar energy in order to provide energy security to present and future generations.

4. ISA's goal is to generate 1 trillion watt (1000 gigawatt) of solar power by 2030.

5. The establishment of the ISA will motivate the other countries of the world to increase the production and consumption of the solar energy for sustainable development.

31. Next steps at Gir

Context:

Recently Twenty-three lions have died in as many days in the eastern part of Gujarat's Gir sanctuary.

Major issue of contention:

- According to the State forest department, 11 lions died between September 12 and 19 in Gir's Dalkhania and Jasadhar range. Of those 11 lions, carcasses of seven were found in the forest area, while four died during treatment.

- Later, between September 20 and 30, 10 more lions which were rescued from the Dalkhania range died during the treatment, taking the toll to 21 and making it the worst such tragedy in Gir forest.

- The post-mortem report of 11 lions that died between September 12 and 19 indicated infighting, injuries due to infighting, respiratory and hepatic failure as major causes for deaths.

- While mass mortalities in **wildlife** are always a cause for concern, this case is even more worrisome as the big cat population in Gujarat is the last of the Asiatic lions in the wild.

Causes for mass mortality:

- Following the series of deaths, preliminary reports said that the cats have been killed by disease, most likely to be infectious. Some others have died due to poisoning and infighting.

- The Indian Council for Medical Research (ICMR) has confirmed that the Canine Distemper Virus (CDV) was responsible for lion deaths in the Gir forest of Gujarat and recommended that the remaining lions be vaccinated to prevent further outbreaks.

Supreme Court Order 2013:

- In 2013, the Supreme Court had issued an order that lions from Gujarat be relocated to the Kuno sanctuary in **Madhya Pradesh** as a check against the threat of epidemic. But even wild animals are subject to State politics.

- The Supreme Court had said that Asiatic lion, has been restricted to only one single habitat, i.e. the Gir National Forest and its surrounding areas and an outbreak of possible epidemic or natural calamity might wipe off the entire species.

- Smaller populations with limited genetic strength are more vulnerable to diseases and other catastrophes in comparison to large and widespread population.

- The court also noted how 30% of the lion population in Tanzania's Serengeti was killed due to an outbreak of canine distemper, a viral disease that affects animals.

- Gujarat's response to this was that lions are now spread over the Greater Gir region and this reduces the threat. It has also had an intense, managerial response to the disease — when ill, lions are routinely picked up, medically treated, and then released

New-age conservation:

- When wild animals go extinct locally, they are reintroduced — as in the case of tigers in Sariska, Rajasthan.

- When hungry, they are fed artificially, and even provided salts as supplements, an example being the Hangul (Red deer) population in Dachigam, **Jammu and Kashmir.**

- In other parts of India, wild animals are funnelled through artificial trenches, barriers and fences. This is wildlife conservation in the age of man, where protected areas sometimes resemble zoos.

Wildlife biologists stand:

- Wildlife **conservation** concerns itself with maintaining ecological processes and reducing threats to endangered species.

- It does not entail treating wild animals for disease (in the way domestic animals are) as this can go against the processes of natural selection

- Treating wild animals appears to be a caring thing to do. But it is not conducive to the 'natural' process of life and death, and ultimately compromises immunity.

- Yet even the most flexible of conservationists would agree that intensive artificial medical treatment of wild animals does not augur well for long-term sustainability.

- The role of wildlife managers should be to reduce unnatural threats, not unnaturally prolong life. While **Gujarat** has done a good job of conserving its lions, it should also turn its attention to reducing the drivers of disease, which includes controlling feral dog populations.

On metapopulations

- Metapopulations may be geographically separate but have interactions and an exchange of individuals.

- Gujarat had said to the Supreme Court, "Current Asiatic lion population is not a single population confined to one place." It consists of "metapopulation spread over several locations within the Greater Gir Region", adding that "good conservation practices and intensive wildlife healthcare, has lead to epidemic free regime".

- Crucially though, these areas are connected to each other and this does not address the main concern of creating geographically distant populations

Way forward:

Undoubtedly, after the lion deaths, Gujarat should work towards colonising new habitats outside the Gir landscape within the State. However, there are spatial limitations in this industrialised State. An option is the Barda wildlife sanctuary. But Barda is close to Gir, and this cannot be confused with creating isolated populations. It would simply mean increasing suitable lion range from its present, much smaller area.

Finally, there is no getting around the fact that a geographically separate population of Asiatic lions needs to be created. A good track record for lion conservation does not in any way preclude a good long-term strategy.

Science & Technology

32. Fighting fake drugs through blockchain

Context:

NITI Aayog has signed an agreement with cloud services provider Oracle, hospital chain Apollo Hospitals, and pharmaceutical manufacturer Strides Pharma Sciences to curb the distribution of fake drugs using new technologies like blockchain.

Use of technology and its significance:

- The partners will pilot a real drug supply chain using blockchain decentralized ledger and IoT software. By piloting a real drug supply chain using blockchain and IoT software, they can support governments and healthcare experts to quickly detect fake drugs. These will aide authorities to enforce penalties on wrong-doers with easy, proof-based data.

How it works?

- Oracle's blockchain software permanently registers a drug's record in the manufacturer's drug supply chain (serial number, labelling, scanning), leaving no scope for record tampering.

- At every point of hand change, it records the drug's movement — from manufacturer to logistics, from stockist to hospital, or from pharmacy to consumer. In case of a fake drug, the software will detect irregularity and notify the concerned nodal point.

Background:

- The Indian pharmaceutical industry is the third largest in the world in volume, accounting for 10% of the world's production.

- However, a recent report by World Health Organization estimates 20% of all drugs sold in India are fake. Also, as the largest producer of generic drugs in the world, India is reported to be the source of 35% of all counterfeit drugs sold worldwide.

What are Blockchains?

- Blockchains are a new data structure that is secure, cryptography-based, and distributed across a network. The technology supports cryptocurrencies such as Bitcoin, and the transfer of any data or digital asset.

- Spearheaded by Bitcoin, blockchains achieve consensus among distributed nodes, allowing the transfer of digital goods without the need for centralized authorisation of transactions. The present blockchain ecosystem is like the early Internet, a permissionless innovation environment in which email, the World Wide Web, Napster, Skype, and Uber were built.

33. Centre initiates probe into type-2 polio virus contamination

Context:

The Union Health Ministry has ordered an inquiry into the type-2 polio virus contamination detected in the vials used for immunisation in Uttar Pradesh, States.

Elimination of polio in India:

- India was declared polio free in 2014 and the last case was reported on 13 January 2011, when Rukhsar from Howrah was infected with type-1 polio virus.

- The last case due to type-2 wild poliovirus globally was reported from Aligarh in India in 1999.

- India eliminated the type-2 strain in 2016, and the type-2 containing poliovirus vaccine (ToPV) was phased out in April 2016. Children born after April 2016 in India have no immunity to type-2 polio virus.

- There are three serotypes of poliovirus, each of which causes poliomyelitis. The vaccine used by the World Health Organisation (WHO) in the global eradication effort is a trivalent preparation comprising all three serotypes.

Polio:

- Poliomyelitis was first recognized by Jakob Heine in 1840. Its causative agent, poliovirus, was identified in 1908 by Karl Landsteiner.

- polio was one of the most dreaded childhood diseases of the 20th century. Polio epidemics have crippled thousands of people, mostly young children; the disease has caused paralysis and death for much of human history.

- Polio is a highly infectious disease caused by a virus that invades the nervous system, and can cause total paralysis in a matter of hours.

The virus enters the body through the mouth and multiplies in the intestine. The virus is transmitted through contaminated food and water, and multiplies in the intestine, from where it can invade the nervous system. Initial symptoms are fever, fatigue, headache, vomiting, and stiffness in the neck and pain in the limbs.

Polio is more common in infants and young children and occurs under conditions of poor hygiene.

Way forward:

- Engage entire societies in the effort to reach every last child. Make special plans to reach children from mobile and migrant populations, in conflict zones, or in remote regions

- Strengthen routine immunization, which is the best national defence against polio.

- Improve surveillance in high-risk areas. Encourage governments to reach out to the poorest people with other public services. Continue to receive the highest level of political commitment from national governments and multilateral institutions

34. World's first Hyperloop passenger capsule unveiled

Context:

Hyperloop Transportation Technologies Inc. has unveiled its first full-scale passenger capsule in Spain.

- The capsule is 105 feet (32 meters) long and weighs 5 tons. Named as the Quintero One, the product is made almost entirely out of composite material.

What is hyperloop transportation system?

- It is a transportation system where a pod-like vehicle is propelled through a near-vacuum tube connecting cities at speeds matching that of an aircraft.

- The hyperloop concept is a brainchild of Tesla founder Elon Musk. US-based Hyperloop Transport Technology (HTT) claimed it costs $40 million per kilometre to build a hyperloop system while building a high-speed train line would cost almost twice. The hyperloop system is being designed to transport passengers and freight.

How it operates?

- In hyperloop transporation, custom-designed capsules or pods are expected to zip smoothly through continuous steel tubes which are held at partial vacuum. The pod which sandwiches the passenger

compartment between an air compressor upfront and a battery compartment in the rear is supported by air caster skis at the bottom.

- The skis float on a thin layer of air provided under high pressure, eliminating rolling resistance and allowing for movement of the pods at high speeds. These capsules are expected to be driverless with estimated speeds of 1,000 km/h. Linear induction motors that are placed along the tube control the speed of the pod. Electronically-assisted acceleration and braking determines the speed of the capsule.

The Problems Plaguing the Hyperloop:

- Constructing a tube hundreds of kilometers long would be an engineering marvel in of itself. However, introducing a tube hundreds of kilometers long that operates at a near perfect vacuum which can support the force of capsule weighing thousands of kilograms as it travels hundreds of kilometers an hour is nothing short of sci-fi fantasy.

- Small scale experiments reveal the fundamentals of the idea are sound. Although, in the real world, there are too many factors that cannot be accounted for with a small scale design. In the real world, there are tens of thousands of kilograms of atmospheric pressure which threatens to crush any vacuum chamber.

- There is also the problem with thermal expansion which threatens to buckle any large structure without proper thermal expansion capabilities. The Hyperloop would also be stupendously expensive. There are many unavoidable problems facing the Hyperloop that threaten the structural integrity, and every human life on board. The problems can be addressed, but at a great cost.

Note:

- The government of Andhra Pradesh has signed a Memorandum of Understanding (MoU) with California-based Hyperloop Transportation Technologies (HTT) to develop India's first Hyperloop route in the state.

- The proposed route for the Hyperloop between the city centers of Vijaywada and Amaravati could potentially turn a trip of more than one hour into a 6 minute ride.

- The project will use a Public Private Partnership (PPP) model with funding primarily from private investors.

35. Mobile Asteroid Surface Scout (MACOT)

Context:

The Hayabusa2 probe launched the French-German Mobile Asteroid Surface Scout, or MASCOT towards the Ryugu asteroid's surface.

About MASCOT:

- The 10-kg box-shaped MASCOT is loaded with sensors. It has been built by the German Aerospace Center (DLR) and the French Space Agency (Cnes).

- It can take images at multiple wavelengths, investigate minerals with a microscope, gauge surface temperatures and measure magnetic fields.
- MASCOT will be largely immobile — it will "jump" just once on its mission, and it can turn on its sides.
- The MASCOT has a maximum battery life of just 16 hours.

MINERVA-II micro-rovers:

- About 10 days ago, Hayabusa2 dropped a pair of MINERVA-II micro-rovers on the Ryugu asteroid. It was the first time that moving, robotic observation device have been successfully landed on an asteroid.
- The rovers will take advantage of Ryugu's low gravity to jump around on the surface -travelling as far as 15 metres (49 feet) while airbourne and staying in the air for as long as 15 minutes — to survey the asteroid's physical features with cameras and sensors.

Objectives of Hayabusa2 mission:

- The Hayabusa2 is scheduled later this month to deploy an "impactor" that will explode above the asteroid, shooting a two-kilo (four-pound) copper object into it to blast a small crater on the surface. The probe will then hover over the artificial crater and collect samples using an extended arm.
- The samples of "fresh" materials, unexposed to millennia of wind and radiation, could help answer some fundamental questions about life and the universe, including whether elements from space helped give rise to life on Earth.

Background:

- Hayabusa2, about the size of a large fridge and equipped with solar panels, is the successor to JAXA's first asteroid explorer, Hayabusa — Japanese for falcon.
- That probe returned from a smaller, potato-shaped, asteroid in 2010 with dust samples despite various setbacks during an epic seven-year odyssey and was hailed as a scientific triumph.

36. Indian National Center for Ocean Information Services (INCOIS)

- In Kerala, the Indian National Centre for Ocean Information Services (INCOIS) is planning to provide real-time information on the market price of fishes and allied news through the GPS-enabled GEO Augmented Navigation (GAGAN).

About GAGAN:

- The objective of GAGAN to establish, deploy and certify satellite based augmentation system for safety-of-life civil aviation applications in India has been successfully completed.

- The system is inter-operable with other international SBAS systems like US-WAAS, European EGNOS, and Japanese MSAS etc.
- GAGAN GEO footprint extends from Africa to Australia and has expansion capability for seamless navigation services across the region.
- GAGAN provides the additional accuracy, availability, and integrity necessary for all phases of flight, from enroute through approach for all qualified airports within the GAGAN service volume.
- GAGAN Payload is already operational through GSAT-8 and GSAT-10 satellites. The third GAGAN payload will be carried onboard GSAT-15 satellite which is scheduled for launch this year.
- GAGAN though primarily meant for aviation, will provide benefits beyond aviation to many other user segments such as intelligent transportation, maritime, highways, railways, surveying, geodesy, security agencies, telecom industry, personal users of position location applications etc.

About INCOIS:

- Indian National Center for Ocean Information Services (INCOIS) is an autonomous organization of the Government of India, under the Ministry of Earth Sciences.
- INCOIS is mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvements through systematic and focussed research.

37. 'Jewel of Roman Empire' faces danger

Context:

UNESCO declared Sabratha to be at risk in July 2016, along with four other Libyan sites on its World Heritage list.

Sabratha (Jewel of Roman Empire):

- Perched on the edge of Libya's Mediterranean coast, the ancient city of Sabratha remains an awe-inspiring spectacle, the pink columns of its amphitheatre towering above turquoise waters.
- Spread out over 90 hectares, including a part engulfed by the sea, Sabratha is one of three former cities that constituted Roman Tripolitania.
- But the world heritage site is classified as "endangered" by UNESCO, its majestic structures pockmarked by mortar and small arms fire.

Causes for the degradation:

- Since the toppling and killing of Libya's dictator Moamer Kadhafi in a 2011 uprising, Sabratha has become a key departure point for illegal migration.

- Shell casings and bullets still litter the surrounding earth, a year after clashes between rival armed groups.
- Bringing bloodshed back to the gladiatorial arena some 18 centuries after it was built, 39 people were killed and 300 wounded in the fighting.
- Today, the site around 70 km from the capital lies eerily abandoned, encircled by parched grass and weeds.
- Smugglers and militias have profited amply from a chronic security vacuum. It is from the long and deserted shores a few kilometres from ancient Sabratha that most migrants start their perilous boat journeys towards Europe.

Permanent danger:

- UNESCO declared Sabratha to be at risk in July 2016, along with four other Libyan sites on its World Heritage list.
- The UN's cultural organisation based its decision on two factors — "damage already caused" and vulnerability to future destruction. It noted that "armed groups are present on these sites or in their immediate proximity".
- The others are Oea — modern-day Tripoli — and Leptis Magna in western Libya that was one of the sites categorised as endangered by UNESCO two years ago.

Stone erosion and degradation:

- Sabratha suffers from stone erosion and degradation, but the damage caused by man is a greater fear
- Also, several protected Libyan sites are threatened by uncontrolled urban expansion. One example is Cyrene, an ancient Greek city in northeastern Libya.

Urbanization and looting:

- Exploiting the chaos, people have claimed ownership of land and built within the archaeological site's perimeter.
- Looting is another threat to these sites, as the lack of security has led to illicit excavation and smuggling of antiquities.

A Spanish archaeological mission recently visited Sabratha and signed an agreement to restore some areas, including the theatre. But completion of the work "depends on the security situation",
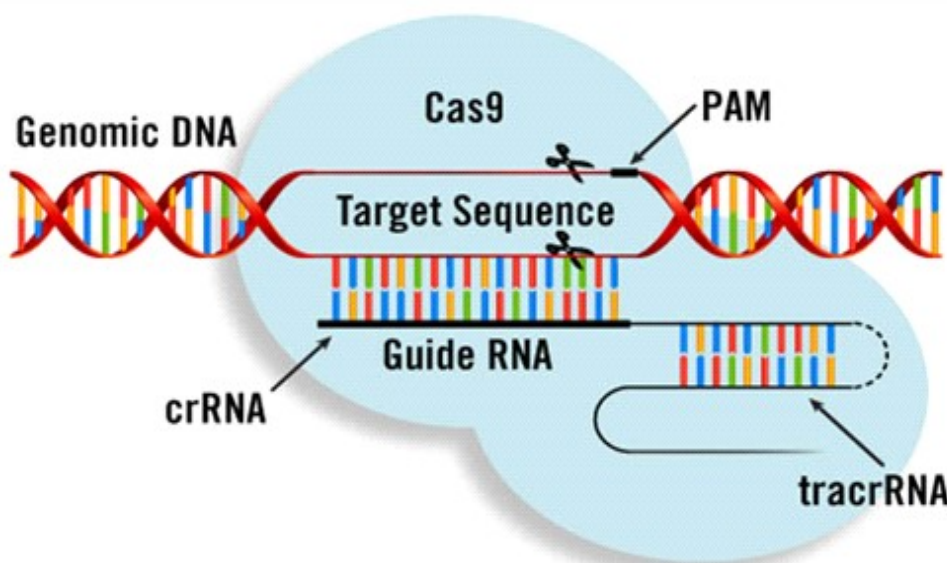
38. What is CRISPR-Cas9?

- CRISPR is **a dynamic, versatile tool that allows us to target nearly any genomic location and potentially repair broken genes**. It can remove, add or alter specific DNA sequences in the genome of higher organisms.
- **CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)** are sections of DNA and are sections of genetic code

containing short repetitions of base sequences followed by spacer DNA segments.

- **CAS-9 (CRISPR-associated protein 9)** is an enzyme. It uses a synthetic guide RNA to introduce a double strand break at a specific location within a strand of DNA. It is a system used by bacterial cells to recognize and destroy viral DNA as a form of adaptive immunity.

How it works:

- **CRISPR scans the genome** looking for the right location and then **uses the Cas9 protein as molecular scissors** to snip through the DNA.

- Cas9 endonuclease – guide RNAs to direct it to a particular sequence to be edited. The genetic sequence of the RNA matches the target sequence of the DNA that has to be edited.

- When Cas9 cuts the target sequence, the cell repairs the damage by replacing the original sequence with an altered version.

- Unlike other gene-editing methods, **it is cheap, quick, easy, safer and more accurate to use because it relies on RNA–DNA base pairing, rather than the engineering of proteins** that bind particular DNA sequences.

39. Pros of Gene editing:

- CRISPR could be used **to modify disease-causing genes** in embryos brought to term, removing the faulty script from the genetic code of that person's future descendants as well. Genome editing (Gene editing) **could potentially decrease, or even eliminate, the incidence of many serious genetic diseases**, reducing human suffering worldwide.

- It might also be possible to **install genes that offer lifelong protection against infection**.

40. Cons of Gene editing:

- Making irreversible changes to every cell in the bodies of future children and all their descendants would constitute extraordinarily **risky human experimentation**.

- There are **issues including off-target mutations (unintentional edits to the genome)**, persistent editing effects, genetic mechanisms in embryonic and fetal development, and longer-term health and safety consequences.
- Some argue that we do not understand the operations of the genome enough to make long-lasting changes to it. **Altering one gene could have unforeseen and widespread effects on other parts of the genome**, which would then be passed down to future generations.
- Many consider genome alterations to be **unethical**, advocating that we should let nature run its course.
- Few argue that after permitting human germline gene editing for any reason would likely lead to its ignorance of the regulatory limits, to the emergence of a market-based eugenics that would exacerbate already existing discrimination, inequality, and conflict.
- It will **become a tool for selecting desired characteristics such as intelligence and attractiveness**.

41. Risks associated with Gene Editing:

- In the 2016 Worldwide Threat Assessment of the US Intelligence Community statement United States Director of National Intelligence, James R. Clapper, named genome editing as a **potential weapon of mass destruction**, stating that genome editing conducted by countries with regulatory or ethical standards "different from Western countries" probably increases the risk of the creation of harmful biological agents or products.
- Low cost and accelerated pace of development of this technology and its deliberate or unintentional misuse might lead to far-reaching economic and national security implications.
- It could lead to the manufacture of biological weapons by potential bioterrorists who might use the knowledge to create vaccine resistant strains of other pox viruses, such as smallpox, that could affect humans.

42. India, Russia sign S-400 missile deal after summit

Context:

India and Russia concluded the contract for five S-400 'Triumf' missile systems, one of the biggest defence deals in recent times, after the annual summit between Prime Minister Narendra Modi and Russian President Vladimir Putin.

What is S-400 'Triumf' Air Defence System?

- An S-400 'Triumf' long-range air defence missile system is one of the most advanced long-range defence systems in the world. It is referred to as SA-21 Growler by NATO.

- It is an upgraded version of the S-300 defence system and is manufactured by Almaz-Antey. It has been in service in Russia since 2007.

- It is capable of firing three types of missiles. Thus, it creates a layered defence, and simultaneously engaging 36 targets.

- It has capability to destroy incoming all airborne targets at ranges of up to 400 km. With it, India can destroy Pakistani aircrafts even when they are `in` their airspace.

- The five S-400 systems will be operated by the Indian Air Force (IAF). India is the second export customer, after China to purchase this most advance defence system.

Done deal

India and Russia inked 8 deals in a variety of sectors including railways, fertilizers and space

BETTER CO-OPERATION: Protocol for consultations between the Ministry of Foreign Affairs, Russia, and MEA between 2019-2023

ECONOMIC DEVELOPMENT: MoU between the Ministry of Economic Development & NITI Aayog

FERTILISERS: Indian Potash Ltd has agreed to import up to 2 mn tonnes of fertilisers, worth ₹7,300 crore, from Russia's PhosAgro

MSME: MoU between the National Small Industries Corporation, India, and the Russian Small and Medium Business Corporation

SPACE: MoU between ISRO and the Russian space agency in the field of human spaceflight

RAILWAYS: Includes implementation of projects signed in an MoU in 2015 and railway-related education

NUCLEAR: Action plan for prioritization and implementation of cooperation areas

US warnings:

- The deal would invoke sanctions under the Countering America's Adversaries Through Sanctions Act (CAATSA) law, which penalises defence purchases from Russia, Iran and North Korea, as soon as the first payment is made.

- The U.S. Embassy issued a statement warning that any waiver for the S-400 deal would only be considered on a "transaction-by-transaction basis."

India's view:

- Government source rejected the U.S. statement, saying that the S-400 missile system deal was done in the "national interest."

- The deal fulfils a certain defence requirement for India and the government has taken the decision in the national interest,

Conclusion:

India is the second largest market for Russia's defence industry. Russia is the chief supplier of defence equipment to India. With threats always a possibility from China and Pakistan, India needs to keep its defence systems strong. Purchase of S-400 Air Defence System will help India in keeping its land boundaries and air space more secure and shall be looked forward to.

Miscellaneous

43. UN Champions of the Earth Award 2018

Context:

Prime Minister Narendra Modi has been awarded with the UN's highest environmental honour- Champions of the Earth Award, bestowed upon five other individuals and organisations.

- French President Emmanuel Macron, President of France and Modi have been jointly recognised in the Policy Leadership category for their pioneering work in championing the International Solar Alliance and promoting new areas of levels of cooperation on environmental action, including Macron's work on the Global Pact for the Environment and Modi's unprecedented pledge to eliminate all single-use plastic in India by 2022.

- Cochin International Airport has also been honoured this year with the award for Entrepreneurial Vision, for its leadership in the use of sustainable energy.

44. Mansar Lake

- Mansar Lake is one of the largest freshwater lakes in the Shivalik range of the Jammu region.

- Mansar Lake is situated 62 km (39 mi) from Jammu, Mansar is a lake fringed by forest-covered hills, over a mile in length by half-a-mile in width.

- Also known as Surinsar-Mansar Lakes is designated as Ramsar Convention in November 2005.

- Besides being a popular excursion destination in Jammu, it is also a holy site, sharing the legend and sanctity of Lake Manasarovar. On the Eastern Bank of the Lake there is a shrine to Sheshnag, a snake with six heads. The shrine comprises a big boulder on which are placed a number of iron chains perhaps representing the small serpents waiting on the tutelary deity of the Sheshnag.

- Two ancient temples of Umapati Mahadev & Narsimha as also a temple of Durga are situated in the vicinity of the Mansar lake. People take a holy dip in the water of the lake on festive occasions.

- The lake is facing an existential threat due to human intervention and climate change.

45. 'World Peace' monument

Context:

On the occasion of 150th birth anniversary of Mahatma Gandhi, Vice-President M. Venkaiah Naidu inaugurated the world's largest dome at the Maharashtra Institute of Technology (MIT)'s World Peace University (MIT-WPU) campus at Loni Kalbhor.

Key facts:

- It is one of the largest domes in the world.
- It took nearly 13 years to build the dome.
- It is 160 ft. in diameter and 263 ft tall, it is larger in area than the dome at St. Peter's Basilica in Vatican City (which is 136 ft. in diameter and 448 ft. in height).
- The dome is built atop the MIT World Peace Library and the World Peace Prayer Hall, which are named after the 13th century poet-saint and philosopher Dnyaneshwar — a pivotal figure of the Bhakti movement in Maharashtra.
- Each of the 24 massive columns in the dome stands 63 feet tall. The prayer hall can accommodate 3,500 people and is embellished with portraits of more than 50 accomplished men globally.

45. 'World Peace' monument

OUR BRANCHES

Hyderabad : Indira Park

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OUR RESULTS - 2017

62 Fathima Zeba
HT No : 786820

83 Srivastava
HT No : 29379

100 Mourya
HT No : 255748

105 Mishra
HT No : 262146

144 · 149 · 187 · 295 · 296 · 360 · 412 · 417

474 · 480 · 548 · 614 · 673 · 713 · 726 · 758

761 · 765 · 768 · 769 · 828 · 832 · 872 · 886