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NOVEMBER 2019

G.S PAPER II

1. POLITY

1.1 Madras HC Ruling on Child Abuse

Why in news?

- In a case on child rape, the Madras High Court held up rigorous imprisonment as punishment for a child rapist.
- The Court also made some key observations, which are worth looking at in terms of approach to handling such cases by the state machinery.

What is the case on?

- The high court was hearing a case in which a man had sexually assaulted a five-year-old girl in Nagapattinam in 2011.
- According to the case, the man Ganapathy, had raped the girl when she was playing with her friends.
- Based on a complaint given by the girl's mother, the Nagapattinam police had registered an FIR against Ganapathy for rape.
- Significantly, Justice S Vaidyanathan, who was hearing the case, junked several arguments made by the defence on technical lines.

What are the observations made by the Judge?

- The Judge overruled several arguments made by the counsel for the accused in relation to -
 - i. initial delay in filing the complaint
 - ii. absence of injuries on the child
 - iii. the trustworthiness of the victim's statement
- **Delay** - The defence side argued that the accused, the mother, delayed the filing of a complaint.
- To this, the Judge said that the rape of a girl of a tender age will have adverse effects, which her family needs time to recover from.
- He thus attributed the delay to normal human conduct.
- It was also said that in a village setting, neither the girl nor her parents would be tempted to rush to the police station immediately.
- **Injuries** - On the absence of external injuries, the judge said that it is not possible to find bloodstains on the girl's body four days after the rape.
- **Trustworthiness** - The Judge stated that courts have to believe what the child-survivor says in such cases.
- The courts should not be influenced by misconceptions that children are likely to lie in cases of sexual abuse.
- Children should also not be seen as being tutored by parents to make false statements in court.
- These misconceptions should not affect the manner in which courts respond to cases of child sexual abuse.



What are the guidelines for defence lawyers' interrogation?

- The attitude of defence lawyers reflects a structural problem in the legal system.
- It is more often biased and derogatory towards victims of child sexual abuse.
- Defence questions are hostile, often sexually explicit, and structured to imply that lack of resistance means consent.
- The guidelines in Sakshi v. Union of India (2004) aim at discouraging this controversial practice.
- It requires questions in cross-examination to be routed to the prosecutrix (a female victim of a crime on whose behalf the state is prosecuting a suspect) through the Presiding Officer.
- The objective is to prevent harassment and intimidation by the defence counsel.
- However, this is not an established practice and happens only when cross-examination gets unacceptably offensive and objectionable.

How is child's vulnerability a limitation here?

- The child witnesses often do not understand the confusing questions of defence counsel.
- This makes them vulnerable and they end up giving vague answers.
- Also, children delay disclosure of the abuse (one third of them wait at least a year).
- So, chances are that medical evidence may go undetected or get lost.
- This further hampers their chances of securing justice.
- Delayed disclosure also makes it difficult for child witnesses to recall specific details of the abuse.
- This, in turn, makes it easier for the defence to disprove allegations.
- All these highlight the need to have a policy in place to address the concerns of delayed reporting of abuse and brutal cross-examination of child witnesses.

How would sexuality education help?

- Not knowing how to narrate what exactly happened to them, children typically provide vague and sketchy responses in trial proceedings.
- Children should thus be educated to know and use the names of body parts instead of using euphemisms.
- Teaching the correct names of private parts will also reduce the shame and stigma associated with talking about them.
- Children should be educated about the nature of sexual abuse as well as the procedures to invoke formal justice mechanisms.
- They should be equipped with the right vocabulary to talk about sexual abuse.
- It is thus imperative to introduce sexuality education in the school curriculum.
- This should be underpinned by concepts of criminology and criminal justice.
- This would prepare the children to -
 - i. recognise potentially inappropriate behaviour
 - ii. understand the different emotions that come with feeling 'unsafe'

iii. verbalise abuse to seek help from adults and disclose abuse promptly

- Besides these, there is also the compelling need to increase the awareness of the legal system about child-sensitive communication.

1.2 SC Judgement on Karnataka MLAs Disqualification

Why in news?

The Supreme Court delivered its judgement in regards with the disqualification of 17 MLAs of the Congress and Janata Dal-Secular (JD-S) in Karnataka.

What led to the MLAs disqualification?

- The 2018 Karnataka State elections produced a hung Assembly - the BJP won 104 seats, Congress 80, and JD-S 37 in the 224-member House.
- Three seats went to others.
- The BJP failed to gather a majority after 3 days of Yediyurappa being Chief Minister.
- The Congress and JD-S leaders forged an alliance soon after the results.
- They formed the government with H D Kumaraswamy of the JD-S as CM.
- In July 2019, 14 MLAs from the Congress and 3 from the JD-S quit the Assembly.
- It was apparently because they were unhappy with the coalition government.
- The resignations were seen as linked to a BJP attempt to topple the government.
- The Congress and JD-S thus sought the MLAs' disqualification, and a bar on their contesting elections.
- As the 17 rebels stayed away from the Assembly, the Congress-JD-S government collapsed during a trust vote on July 23.
- This paved the way for the BJP to stake claim to form a new government under Yediyurappa on July 26.
- In the interim, the 17 MLAs were disqualified from the 16th Karnataka Legislative Assembly by the then Speaker K.R. Ramesh Kumar on July 25 and 28 2019 under the anti-defection law.
- They were barred from contesting elections during the entire tenure of the current Assembly (which is until 2023).
- The MLAs subsequently moved the Supreme Court asking that the Speaker's orders be quashed.
- The Congress and JD-S too approached the court, seeking enforcement of the disqualifications.

What are the Court's ruling and observations?

- The Court upheld the disqualification of 17 dissident Congress and Janata Dal (Secular) MLAs by Karnataka Assembly Speaker under the Tenth Schedule (anti-defection law).
- It however held that their ouster is no bar from contesting repolls.
- **Contesting Polls** - Neither under the Constitution nor under the statutory scheme would disqualification under Tenth Schedule operate as a bar for contesting re-elections.
- The court said Section 36 of the Representation of the People Act, 1951 does not contemplate such disqualification.
- **Disqualification** - In the light of the existing constitutional mandate, the Speaker is not empowered to disqualify any member till the end of the term.



- However, a member disqualified under the 10th Schedule shall be subjected to sanctions provided under Articles 75(1B), 164(1B) and 361B of Constitution.
- These provide for a bar from being appointed as a Minister or from holding any remunerative political post.
- This applies from the date of disqualification till the date on which the term of his/her office would expire or if he/she is re-elected to the legislature, whichever is earlier.
- **Right to resign** - The court upheld the MLAs' submission that they had a right to resign.
- A member may choose to resign for a variety of reasons and the reasons may be good or bad but it is his/her sole prerogative to resign.
- An elected member cannot be compelled to continue his/her office if he/she chooses to resign.
- The Court held that the Speaker's enquiry on a resignation should be confined to whether it was a voluntary and genuine act.
- The Speaker had the discretion to reject a resignation but the decision should be based on "objective material" and not just ipse dixit (an assertion).
- **Procedure** - The MLAs contended that the Speaker did not give them reasonable time to defend themselves before disqualifying them.
- To this, the Court said that this would depend on the "unique facts and circumstances" of each case.
- However, the Speaker could not cut short the hearing period.
- The Speaker should give sufficient opportunity to a member before deciding a disqualification proceeding.
- They should ordinarily follow the time limit prescribed in the Rules of the Legislature.

What grounds are Speaker's decision reviewed on?

- The court said, "The Speaker, being a constitutional functionary, is generally presumed to have adjudicated with the highest traditions of constitutionalism."
- It was for this very reason that the Constitution has limited the powers of the court to judicially review the Speaker's order under the 10th Schedule.
- The Court held that an order of the Speaker under the 10th Schedule could be subject to judicial review only on four grounds:
 1. mala fide
 2. perversity
 3. violation of the constitutional mandate
 4. order passed in violation of natural justice
- The court rejected the MLAs' contention that their disqualification was invalid as they had tendered their resignations.
 - But, it said the act that led to their disqualification preceded their offer of resignation.

What impact does the ruling has?

- The court has paved the way for the ousted Janata Dal (S) and Congress MLAs to contest the coming by-polls in December 2019.
- They may also reap the benefits of their crossover by getting a ticket from the ruling BJP.
- Significantly, the verdict expresses concern to the fact that Speakers sometimes tend not to be neutral.

- It makes note that change of loyalty for the lure of office continues despite the anti-defection law.
- Identifying its weak aspects and strengthening the law may be the solution.

1.3 Evaluation of Fast Track Courts

What is the issue?

- In 2017, Fast-track courts (FTCs) in only 6 states managed to dispose 50% of their cases within a year.
- In this backdrop, here is an overview of the evolution and the performance of Fast Track Courts in India.

How did FTCs come up?

- The Eleventh Finance Commission's report was submitted in 2000, and the recommendations were for 2000 to 2005.
- The report noted that there was a pendency of about 2 crore cases in the district and subordinate courts of the States in India.
- The FC recommended a grant of around Rs. 500 crore for creation of additional courts specifically for the purpose of disposing of the long-pending cases.
- This will enable the States to create 1,734 new additional courts.
- Though the Eleventh Finance Commission did not use the expression, these 1,734 courts were fast track courts (FTCs).

How did FTCs evolve?

- In consultation with High Courts, state governments were supposed to establish FTCs.
- FTCs were meant to be till March 31, 2005.
- By that date, state governments notified 1,711 FTCs, and 1,562 were functional.
- Per FTC, the all-India average of cases disposed per month was 15.
- Originally, this was meant to be a per judge norm, not a per FTC norm.
- **Continuance** - In a case (Brij Mohan Lal vs Union of India), the Supreme Court instructed that FTCs should not be disbanded overnight.
- Hence, the Union government approved Rs. 509 crore for the 1,562 functional FTCs to continue till March 31, 2010.
- This deadline was later extended till March 31, 2011.
- The Union of India stated that it would not, in any case, finance expenditure of the FTC Scheme beyond this deadline.
- However, some of the States have resolved to continue the FTC Scheme up to 2012, 2013 and even 2016.
- A few States are even considering the continuation of the FTC Scheme as a permanent feature in their respective States.
- **Complexity** - The decision of some states to continue with FTCs has created an anomaly in the administration of Justice in the States and the entire country.
- This meant that while some States continued the Scheme, others were forced to discontinue or close it because of non-availability of funds.
-

Are FTCs effective in fulfilling their objective?

- On ground, the performance widely varied among the states.
- On December 31, 2018, there were 699 FTCs (some earlier ones having been closed down).
- These were for cases against women, children, senior citizens, differently abled, those with terminal ailments, and civil property disputes more than 5 years old.
- FTCs are rightly considered to be fast if they dispose the case transferred to them within a year.
- But, out of the cases disposed in 2017, J&K, Jharkhand, Karnataka, MP, Rajasthan, and TN are the States/UTs whose FTCs disposed of at least half their cases within one year.
- On the other hand, of the 6,704 cases completed in FTCs in Bihar in 2017, 2,507 cases took more than 10 years, and 1,655 cases took between 5 and 10 years.

1.4 Office of the CJI and RTI Act - SC Ruling

Why in news?

The Supreme Court ruled that the office of the Chief Justice of India (CJI) is a public authority under the Right to Information (RTI) Act.

What is the case on?

- The judgment pertained to three cases based on requests for information filed by Delhi-based RTI activist Subhash Agarwal. [Click [here](#) to know more on the cases]
- All of these cases eventually reached the Supreme Court.
- Two of the three issues were stuck down.
- The matter the Supreme Court wanted to address was the question whether or not the office of the CJI is under the RTI Act.

How did the case evolve?

- **Request** - In one of the three cases, Agarwal had asked whether all SC judges had declared their assets and liabilities to the CJI following a resolution passed in 1997.
- He had not requested for copies of the declarations, but only the status of judges' compliance.
- [The 1997 resolution requires judges to declare to the CJI the assets held by them - own name, spouse's name and in any person dependent on them.]
- **CPIO** - The CPIO (Central Public Information Officer) of the Supreme Court said the office of the CJI was not a public authority under the RTI Act.
- **CIC** - The matter reached the Chief Information Commissioner (CIC).
- There, a full Bench, headed by then CIC Wajahat Habibullah, in January 2009, directed disclosure of information.
- **Delhi HC** - The Supreme Court approached the Delhi High Court against the CIC order.
- The High Court held that the office of the CJI was a public authority under the RTI Act and was covered by its provisions.
- **Larger Bench** - The Supreme Court then approached a larger Bench.
- The larger Bench held that the earlier judgment of the HC (Justice Ravindra Bhatt) was "both proper and valid and needs no interference".

- **SC plea to SC** - The Supreme Court in 2010 petitioned itself challenging the Delhi High Court order.
- The matter was placed before a Division Bench, which decided that it should be heard by a Constitution Bench.
- As the setting up of the Constitution Bench remained pending, Agarwal filed another RTI application.
- The Supreme Court told him on June 2, 2011 that orders for constituting the Bench “are awaited”.
- Finally, in 2018, CJI Ranjan Gogoi constituted the Bench, which has now pronounced its judgement.

What is the SC ruling?

- A five-judge Constitution Bench of the Supreme Court upheld the Delhi High Court ruling of 2010.
- It thus dismissed three appeals filed by the Secretary General and the Central Public Information Officer (CPIO) of the Supreme Court.
- The SC held that the office of the CJI is a public authority.
- However, it held that RTI could not be used as a tool of surveillance.
- It said that judicial independence had to be kept in mind while dealing with transparency.

What does the order mean?

- The outcome of the ruling is that the office of the CJI will now entertain RTI applications.
- It enables the disclosure of information such as the judges’ personal assets.
- The Bench unanimously argued that the right to know under the RTI Act was not absolute and this had to be balanced with the right of privacy of judges.
- The key take-away from the judgment is that disclosure of details of serving judges’ personal assets was not a violation of their right to privacy.
- The verdict underlines the balance Supreme Court needs between transparency and protecting its independence.
- The move opens the doors to RTI requests that will test the frontiers of what has been a rather opaque system.
- However, what new limitations are drawn would decide how effective the move would get to be.

2. GOVERNMENT ACTS & POLICIES

2.1 Draft Seeds Bill 2019

Why in news?

The government has invited public feedback on the recently released draft Seeds Bill 2019.

What are the key provisions?

- The draft Seeds Bill aims to replace the Seeds Act, 1966 and regulate the quality of seeds sold.
- All varieties of seeds for sale have to be registered.
- The seeds are required to meet certain prescribed minimum standards.
- Transgenic varieties of seeds can be registered only after the applicant has obtained clearance under the Environment (Protection) Act, 1986.

- In addition, the label of a seed container has to indicate specified information.
- The Bill exempts farmers from the requirement of compulsory registration.
- Farmers are allowed to sow, exchange or sell their farm seeds and planting material.
- They do not have to conform to the prescribed minimum limits of germination, physical purity and genetic purity (as required by registered seeds).
- However, farmers cannot sell any seed under a brand name.

What is the key shortfall?

- The Bill contains provisions for the Centre and states to introduce capping of prices.
- It seems that the government is willfully ignoring the lessons of the recent [Shetkari Sanghatana](#) (SS) 'civil disobedience' protest.
- In consequence of this, Monsanto withdrew one of its most advanced GM offerings from approval.
- As the Shetkari Sanghatana protest shows, the fact is that the farmers are aware of the benefits of GM technology.
- They are even willing to pay a premium as long as the GM seeds deliver the promised increase in yields, which translates into profits.
- Moreover, companies such as Monsanto invest heavily in R&D to develop products.
- These not only drive up farm profits but also are fast emerging as a key need as climate change effects threaten agriculture.
- So, any move to discourage seed-tech will be anti-farmer.
- Disincentivising seed-tech companies will have the same effect that the price-caps in pharma and medical devices have had.
- In these sectors, companies have just kept their latest offerings out of the market.
- In many ways, losing access to advanced GM tech could seriously undermine Indian agriculture.

2.2 Draft Rules for Code on Wages, 2019

Why in news?

The Ministry of Labour and Employment recently published the draft rules for implementing the provisions of Code on Wages, 2019 earlier given assent by the President.

What are the draft rules for?

- The Code on Wages replaces four laws:
 1. the Payment of Wages Act, 1936
 2. the Minimum Wages Act, 1948
 3. the Payment of Bonus Act, 1965
 4. the Equal Remuneration Act, 1976
- It seeks to regulate wages and bonuses for all workers employed by any industry, trade, business or manufacturer.
- While the Code is now law, the Ministry has published the draft rules for implementing the provisions, seeking comments.

- Following the consultation, the Centre will notify the rules that will create the mechanisms to fix a floor wage.
- This would then materialise the minimum wages for different categories of workers - unskilled, semi-skilled, skilled and highly skilled.
- The States and Central government would then have to set and enforce them.

Why is the Code significant?

- Minimum wages are accepted globally to be a vital means to combat poverty.
- It equally crucially, ensures the vibrancy of any economy.
- The International Labour Conference's Global Jobs Pact of 2009 identified the importance of wage regulation.
- It saw the regular adjustment of wages, in consultation with the social partners as a means of -
 - i. reducing inequality
 - ii. increasing demand
 - iii. contributing to economic stability
- The Pact came in the aftermath of the 2008 global financial crisis and the erosion of purchasing power worldwide.

What are the key provisions of the code?

- The Code acknowledges that the aim in setting the floor wage is to ensure "minimum living standards" for workers.
- The draft rules incorporate criteria declared in a landmark judgment of the Supreme Court in 1992 as well as recommendations of the 15th Indian Labour Conference.
- These include the -
 - i. net calorific needs for a working class family set at 2,700 calories per day per consumption unit
 - ii. annual clothing requirements at 66 metres per family
 - iii. house rent expenses assumed at 10% of food and clothing expenditure
 - iv. expenses on children's education, medical needs, recreation and contingencies
- A working class family is defined as the earning worker, spouse and two children or the equivalent of three adult consumption units.
- The rules, similarly, cover almost the entire gamut of wage-related norms.
- These include -
 - i. the number of hours of work that would constitute a normal working day (set at 9 hours)
 - ii. time interval for revision of dearness allowance
 - iii. night shifts and overtime
 - iv. criteria for making deductions
- A separate chapter of the draft rules deals with the payment of bonus.
- Also dealt in detail are the guidelines for the formation of the Central Advisory Board as well as its functioning.



What were the earlier recommendations in this regard?

- A national minimum wage of Rs. 176 per day had been recommended in 2017.
- An expert committee had in 2019 recommended that a 'need based national minimum wage for India' ought to be fixed at Rs. 375 per day (Rs. 9,750 per month).
- Additionally, the committee had suggested payment of a city compensatory allowance averaging up to Rs. 55 per day for urban workers.
- Earlier, in 2015, the 7th Central Pay Commission had recommended setting the minimum pay for government employees at Rs. 18,000 per month.
- Recently, the Delhi government set a minimum wage of Rs. 14,842 per month for unskilled workers.
- This came after the Supreme Court ruled in favour of the local government, leaving aside the objections raised by many employers' associations.
- The Economic Survey too emphasized on the importance of establishing an effective minimum wage system.

How will the code impact the economy?

- A lot will depend on the final floor wage or wages that the Centre will choose to set.
- A statutory national minimum wage would have multiple impacts including helping lift wage levels and reducing wage inequality.
- It would thus go a long way in ensuring inclusive growth.
- For India to reap the 'demographic dividend', robust wage expansion would be essential to help sustain consumption-led economic growth.

2.3 Evaluating Pradhan Mantri Fasal Bima Yojana

Why in news?

Four private insurance companies have decided to opt out of Pradhan Mantri Fasal Bima Yojana (PMFBY), government's flagship crop insurance programme.

What is PMFBY?

- The Pradhan Mantri Fasal Bima Yojana (Prime Minister's Crop Insurance Scheme) was launched in 2016.
- The scheme is aimed at reducing agricultural distress at instances of monsoon fluctuations induced price risks.
- It envisages a uniform premium of just 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%.

How has the scheme performed over the years?

- The PMFBY is better than most other farm insurance instruments tried out with little success since the early 1970s.
- However, it does suffer from several inherent flaws which undermine its appeal to both insurers and farmers.
- The insurance companies find it a loss-making business despite the hefty 90% subsidy by the government.
- On the other hand, the farmers complain that the compensation is too meager and comes with an inordinate time lag.
- The common impression that the subsidy is being cornered unfairly by insurance firms seems true but only partly.

- In the initial years after the launch of the scheme in 2016, supportive weather had prevented crop damages.
- Hence, the reimbursement claims were low.
- This allowed the insurers to make good profits.
- But, the situation has since changed with irregular monsoon rainfall.
- There was 9% deficient in monsoon rains in 2018 and 10% excess in 2019.
- This inflicted heavy crop losses in several states.
- As a result, the compensation claims have exceeded the collected premium.
- This, consequently, eroded the insurance companies' profits.
- It ultimately made crop insurance an unattractive proposition for them.

What are the concerns with the scheme?

- The shortcomings in the design of the PMFBY include -
 - i. the involvement of banks in the mandatory insurance of the crops grown by borrower farmers
 - ii. the assessment of damages on the basis of average crop loss in a given contiguous area rather than in the farmer's field
- The banks usually adjust the compensation amount against the loans without the consent or knowledge of the farmers.
- This worsens the trust deficit among farmers, banks and insurance companies.
- Also, the involvement of the state governments in sharing the financial burden equally with the Centre is creating problems.
- The states' involvement in estimating the losses through crop-cutting experiments and other means is also problematic.
- The use of technology in damage evaluation is not happening to the desired extent.
- This is limiting the credibility of the crop loss data and is also needlessly delaying the finalisation of reimbursement amounts.
- Moreover, states often release their share of the funds late and in installments.
- This affects the liquidity and paying capacity of the insuring firms.
- Many states have capped the sum assured at unrealistically low levels, which do not adequately cover costs.

3. SOCIAL JUSTICE

3.1 Prison Statistics India 2017

Why in news?

The National Crime Records Bureau (NCRB) recently released the "Prison Statistics India 2017" report.

What are the highlights?

- **Prison deaths** - The number of deaths in prisons has increased marginally from around 1,580 in 2015 to around 1,670 in 2017, with a surge of 5.49% during 2017.



- The NCRB also found that there is a minuscule increase in deaths inside prisons in 2017 as compared to 2016.
- Out of the 1,671 deaths in 2017, 1,494 were natural and 133 unnatural.
- The number of unnatural deaths in prisons has increased by 15.7% from 115 in 2015 to 133 in 2017.
- Among the 133, 109 inmates have committed suicide, 9 died in accidents, 5 were murdered and 5 died due to assault by outside elements.
- For a total of 44 inmates' deaths, the cause of death is yet to be known.
- **Escaped** - A total of 371, 577 and 378 prisoners were reported as escaped from lawful custody during the years 2015, 2016 and 2017 respectively.
- During 2017, 215 prisoners were reported as escaped from judicial custody.
- Gujarat has reported escapee of 90 prisoners while they were outside prison premises followed by WB (11), and Bihar and Rajasthan (8) each.
- Apart from escape from Judicial Custody, 163 prisoners escaped from Police Custody.
- Highest of such escape from police custody was reported by UP (39) followed by Punjab (17) and Andhra Pradesh (15).
- **Other incidents** - A total of 15 jail break incidents were reported in 2017 with 10 cases in West Bengal.
- A total of 88 clash incidents inside jails were reported in 2017.
- The highest of such clashes were reported by Bihar (35) followed by Delhi (19) and Punjab (11).
- A total of 204 persons consisting of 181 prisoners and 23 jail officials got injured in such clashes and 1 prisoner died.
- In 2017, no incident of firing was reported across the jails in the country.
- **Prisoners** - The number of prisoners lodged in various jails has increased by 7.4% from 2015 to 2017.
- In 2017, out of the around 4,50,700 prisoners, around 4,31,800 were male prisoners and 18,800 were female prisoners.
- Out of the total prisoners, the convicts, undertrial inmates and detenues were reported to be comprising 30.9%, 68.5%, and 0.5% respectively.
- Other prisoners accounted for 0.2% (693 prisoners) of total prisoners.
- The number of convicted prisoners has increased by 3.7% from 2015 to 2017.
- The highest number of convicted prisoners lodged in Central jails were recorded to be 66.3%, followed by district jails 27.9% and Open jails 2.4%.
- **Prisons** - The total number of prisons at national level has decreased from 1,401 in 2015 to 1,361 in 2017, with a decrease of 2.85% during 2015-2017.
- There are 1,361 prisons in the country - 666 Sub jails, 405 District jails, 142 Central jails, 64 Open jails, 41 Special jails, 22 Woman jails, 19 Borstal School (to reform young people) and 2 other jails.
- The actual capacity of prisons has increased by 6.8% during 2015-2017.

3.2 NEET Data from Tamil Nadu

What is the issue?



- A data from Tamil Nadu government on NEET pass percentages recently became available through the Madras High Court.
- While the NEET puts the poor at a disadvantage, the focus must be on quality of school education.

What are the highlight findings?

- A total of 3,081 candidates got admitted in MBBS course in 23 government medical colleges in Tamil Nadu in 2019.
- As many as 1,040 of those candidates cleared NEET in the first attempt.
- A majority of 2,041 cleared it either in the second or third attempt.
- Of the total, only 48 candidates had not attended any coaching centre.
- Only 1.6 % of all students who joined the government medical colleges had managed to get a seat without coaching.
- Significantly, even in private medical colleges, only a marginally higher percentage (3.2) had got through without coaching classes.
- A significant percentage of students in both government (66.2) and private colleges (64.4) had to take multiple attempts at NEET to get a seat.

What does the data imply?

- The data shows a clear link between coaching classes and securing a medical seat.
- As observed by the Court, the data on medical admissions proves NEET to be anti-poor.
- The costs of coaching classes are huge, running into lakhs of rupees.
- It clearly puts medical education out of the reach of the poorer sections as well as students from rural areas.

What should the response be?

- With the poor being at disadvantageous position, there are calls to cancel the NEET.
- The fundamental question, however, is the quality of education being imparted to students, in urban and rural areas.
- Ensuring that quality education is imparted at schools by well-trained teachers would obviate the need for coaching outside of classes.
- The need now is for the States to put in place a series of steps that would make learning meaningful, and fun for children.
- In the interim, it should provide free NEET coaching classes to help disadvantaged students make that leap.

3.3 Delhi Police-Lawyers Clash

Why in news?

Delhi witnessed an unprecedented protest resulting from a clash between the Delhi police personnel and lawyers.

What happened?

- The clash was between police and lawyers following an argument over parking at the Tis Hazari Court complex.
- It led to violence in which people from both sides were injured.



- Thousands of Delhi Police personnel took on protest outside the Police Headquarters in Delhi.
- The protest was a reaction to two attacks on the police personnel.
- The families of the personnel also took to streets seeking arrest of the lawyers involved in the clash.
- The lawyers too abstained from work in all district courts in the capital.
- They demanded the arrest of the police personnel involved in the clash.
- The intervention by the Delhi High Court appeared to be shielding the lawyers while being harsh on the police.
- After more than 11 hours, the protest was called off following multiple appeals including from police's chief.
- Senior officers assured that their grievances would be addressed.
- It was also assured that a review petition would be filed against the Delhi High Court order in connection with the clash.

What are the larger concerns among police personnel?

- Overworked and often used as tools by political masters, police forces are far from professional in any part of India.
- The outburst of the constables in Delhi is also the result of their accumulated resentment against senior officers.
- Under the direct supervision of the Home Ministry, the Delhi police is often caught in the crossfire of many political battles.
- Consequently, the junior personnel are often the worst-affected.

What are the governance implications?

- The blockade of the Delhi police headquarters by its personnel and the disruption of courts led to a governance breakdown in the national capital.
- At a deeper level, the clash is an alarming sign of an increasingly weakening governance deficit and collapse of the rule of law.
- This takes many forms, such as police support for mobs and legal processes that victimizes victims of crimes further.

4. HEALTH

4.1 Vaccine Hesitancy

What is the issue?

- There is a spread of misinformation from an UN-based platform about vaccination recently.
- This unchallenged spread could affect the global vaccination programme.

What is the global perspective?

- **WHO** - In January 2019, the World Health Organization (WHO) listed vaccine hesitancy as among the top 10 threats to global health this year.

- Vaccine Hesitancy is defined as a reluctance or refusal to vaccinate despite the availability of vaccines.
- According to WHO, vaccination prevents between 2-3 million deaths each year, a figure that will rise by another 1.5 million if vaccine coverage improves.
- **Survey** - Yet, a survey of over 1,40,000 people from 140 countries has revealed the striking difference in how people trust vaccines.
- At 95%, people from South Asia trusted vaccines followed by eastern Africa at 92%.
- Western and Eastern Europe brought up the rear with just 59% and 52%, respectively.
- The repercussions of vaccine hesitance are now playing out globally - as on October 10, 2019, nearly 4,24,000 children have confirmed measles, as against a figure of 1,73,000 in the whole of 2018.

What is the Indian perspective?

- Vaccine hesitancy has been a concern in India.
- **2018 study** - Points out that the vaccine hesitancy continues to be a huge challenge for India.
- The study found nearly a quarter of parents did not vaccinate their children out of a fear of adverse events.
- This was in 121 high priority districts chosen by the Health Ministry for intensified immunisation drive to increase vaccine coverage.
- **In 2016**, Muslim communities in two districts in north Kerala reported low uptake of diphtheria vaccine.
- Reason - Propaganda that the vaccine may contain microbes, chemicals and animal-derived products which is forbidden by Islamic law.
- **In 2017**, when measles-rubella vaccine was introduced, Tamil Nadu and Karnataka, which have traditionally seen high vaccine acceptance, witnessed low uptake.
- Reason - Fear of adverse effects from vaccination.

What was the misleading tweet?

- Against this background, a self-styled yogi Jaggi Vasudev tweeted a message on side-effects or negative impacts of vaccinations.
- This dangerous sweeping statement will give anti-vaxxers the impetus and ammunition to scare parents from vaccinating their children.
- Stirring fear in people by falsely blaming vaccines for unrelated diseases is the bedrock of the anti-vaccination movement across the globe.
- Even today, the message of a 1998 discredited study which linked the measles, mumps, and rubella (MMR) vaccine with autism, is used in spreading vaccine doubts and conspiracy theories.
- Besides the dangerous message, it is difficult to fathom the sudden provocation for the tweet.

What happened at the UN?

- There was conversation between Jaggi Vasudev and Dr. Soumya Swaminathan (Chief Scientist, WHO) that was held at the United Nations General Assembly on June 27, 2019.
- During the conversation with Dr. Swaminathan, he is seen advocating vaccination and spelling out the gains India made by preventing children from becoming crippled through oral polio vaccination.
- But soon he veers off track and ends up spreading dangerous misinformation about influenza or flu.



- This might turn out to be the most dangerous piece of misinformation to have ever been said from the hallowed platform of the UN.
- Unfortunately, the patently wrong message went unchallenged, giving it a ring of truth.
- The incorrect message is now posted on the Isha website, increasing the chances of more people being misled.
- The blithe comment about flu without any evidence is in stark contrast to the seriousness with which WHO and the Atlanta-based Centers for Disease Control and Prevention (CDC) treat it.
- The CDC website says that the flu illness is more dangerous than the common cold for children, especially for those less than 5 years of age.
- Children older than 6 months and younger than 5 years belong to the high-risk category, the reason why the CDC recommends vaccination against flu each year.
- WHO recognises children below 5 years as a high-risk group and recommends vaccination each year.

What is a good defence?

- It is already proven that vaccination offers the best defence against flu and its potentially serious consequences, reduces flu illnesses, hospitalisations and even deaths.
- Despite H1N1 (swine flu) becoming a seasonal flu virus strain in India, the uptake of flu vaccine in India is poor - the reason why thousands of cases and deaths get reported each year.
 1. As on 3rd November 2019, there have been 28,109 H1N1 influenza cases and 1,203 deaths this year in India.
 2. The number of H1N1 influenza cases (42,592) and deaths (2,991) in India peaked in 2015.
- Despite its varying effectiveness in different seasons, several studies have shown that the flu vaccination can reduce the risk of flu illness by 40-60% when there is good match between the vaccine's strains and the circulating virus.
- A study in 2017 that looked at flu seasons between 2010 and 2014 found that vaccination reduced flu-associated deaths by 65% among healthy children.
- The vaccine can also prevent hospitalisation; reduce the severity of illness and prevent life-threatening complications in children.
- As per WHO's recommendation, since September 2018, the protection offered by flu vaccines has been widened with the availability of vaccines containing four strains instead of three.

4.2 FSSAI Norms Against Fast Food

What is the issue?

- The Food Safety and Standards Authority of India (FSSAI) has notified a draft regulation against fast food.
- It aims at prohibiting the sale and advertisement of food rich in fat, sugar and salt to schoolchildren inside the school premises and within 50 m around it.

Why this move is taken now?

- It comes in response to the **2015 order from the Delhi High Court** directing the central agency to frame norms to promote healthy diets in schools.



- Besides prohibiting the sale of junk food, the FSSAI requires schools to simultaneously encourage and promote a safe and balanced diet.

What are the regulations?

- The FSSAI wants to shield the children from consuming unhealthy food items and snacks.
- So, it prohibits food companies that manufacture the above-mentioned items from advertising or offering for free such foods in school premises and within 50 m of the campus.
- It wants to thwart food companies from luring children to consume foods rich in fat, sugar and salt.
- So, it prohibited the companies from using their logos, brand names and product names on educational materials, as well as on school property such as buildings, buses, and athletic fields.
- As a guidance to provide wholesome food, the agency recommends the use of a combination of whole grains, milk, eggs, and millets.
- It also listed a set of general guidelines for selection of food products that can be offered in schools.

What is the significance of this move?

- Even as malnutrition accounted for over seven lakhs (68%) deaths in children under the age of five years in 2017 in India, there is rising obesity in schoolchildren in many States.
- **July 2017 study** - India, with 14.4 million, had the second most number of obese children among 195 countries.
- **Recent study** - 23 States to have child overweight prevalence more than the national average, with 6 States having a prevalence of over 20%.
- Studies have shown how a western diet affects the composition and diversity of gut bacteria and sets the stage for many metabolic diseases.
- Hence, any attempt to reduce and discourage the intake of unhealthy foods should be welcomed.
- (Intake of unhealthy foods - A major cause of unhealthy weight gain in children).

5. INDIA & ITS NEIGHBORHOOD

5.1 Inauguration of Kartarpur Corridor

Why in news?

Indian PM flagged off the first batch of over 500 pilgrims to the Kartarpur Sahib Gurudwara in Pakistan through the newly built [corridor](#) linking two important Sikh shrines.

How currently is India-Pakistan ties?

- Political and military tensions are running high since the [Pulwama terror attack](#) in February 2019.
- India's bombing of the [Balakot](#) terror training camp in response to this and the skirmish between the two air forces that followed worsened the situation.
- India's decision to change the [constitutional status of Jammu and Kashmir](#) and [Pakistan's reaction](#) to it was another irritant.
- With these, there is no formal dialogue between the two countries for quite some time now.

- There is not even any speculation about a back-channel dialogue that is sustaining a minimum level of communication between the two leaderships.

What is the significance with corridor inauguration?

- The corridor is a remarkable exception to the current dynamic between India and Pakistan.
- It will allow 5,000 Indian pilgrims a day to walk visa-free into Pakistan, pay obeisance and then return to India.
- Despite many critical voices on either side and some difficult negotiations between Delhi and Islamabad, the corridor is now open.
- The corridor could be a harbinger of improved relations between Delhi and Islamabad.

What is the Punjab connection in this?

- India-Pakistan partition happened with an arbitrary line drawn through Punjab.
- Ever since then, the placement of Kartarpur (where Guru Nanak spent his last years) has been a concern.
- While a majority of his devotees were left on one side of the border, his last resting place was left just four kilometres on the other side.
- The Kartarpur corridor now has realised the dream of many devout Sikhs.
- It has drawn attention to the Punjab question, which is an important but neglected dimension of the relations between Delhi and Islamabad.
- In contrast to J&K, there is shared ethnic, linguistic and cultural identity that binds the people of Punjab.
- This shared identity has indeed survived the many unspeakable tragedies that Partition inflicted upon the province.
- It is the cultural bond as well as the shared sorrow that makes the region most eager in the Subcontinent for a reconciliation between India and Pakistan.

What are the concerns involved?

- There are concerns with the possibility that the initiative is part of Pakistan's longstanding interest in fueling Sikh separatism.
- Pakistan's encouragement of Khalistani separatist groups to use Kartarpur as a platform has been a constant cause for suspicion for India.
- Besides, neither side has been able to build on the goodwill for the Kartarpur project in both countries to create an atmosphere for talks on other issues.
- This failure was most evident when both Mr. Modi and Mr. Khan (Pak. PM) carried out separate inauguration ceremonies.
- They failed to come together at the border for the launch of the project.
- Leaders will need to walk the extra mile for this to happen.
- If both governments are willing, it could lend itself to other cross-border connections for Hindus and Sikhs to visit shrines in Pakistan.
- Likewise, Muslims and Sufism followers could be allowed to visit shrines just across the border in Gujarat and Rajasthan.

5.2 India-Sri Lanka Ties - New Government in Sri Lanka

Why in news?

Sri Lanka's former wartime defence minister Gotabaya Rajapaksa won the recent Presidential elections there.

How does the bilateral future look?

- India should not be carried away by the media narrative of Rajapaksas (Gotabaya and his brother Mahinda, President during 2005-15) being inherently “pro-China”.
- The Rajapaksas had blamed India for their defeat in the 2015 elections.
- However, they have sought to mend ties with Delhi in recent years.
- Reportedly, Gotabaya Rajapaksa has said post elections that China was a “trade partner” while India was a “close relative”.
- The stage is thus ready for a reset in the bilateral relations between the two strong governments in Delhi and Colombo.
- Nevertheless, this necessitates addressing the structural factors that have complicated the relationship between Delhi and Colombo in the past.

What are the challenges to be addressed?

- **China** - A primary challenge is the China question.
- India is aware that China's economic and strategic dominance in the Indian Subcontinent will continue to grow.
- China's influence is not tied to the regime leadership in its neighbourhood.
- It is thus irrelevant to label governments in Colombo as “pro-China” or “pro-India”.
- An example would be the approach of the coalition led by President Maithripala Sirisena and Prime Minister Ranil Wickremesinghe in Sri Lanka.
- It came to power criticising the Chinese projects in Sri Lanka as financially unsustainable.
- Two years into power, the coalition extended full backing to the Chinese projects.
- It was this so-called “pro-India” regime that offered China a 99-year lease on the Hambantota project and stalled key projects of interest to Delhi.
- In any case, Delhi cannot expect its neighbours to shut down economic and commercial engagement with Beijing.
- **Tamils** - Another structural factor shaping India's relations with Sri Lanka is the Tamil question.
- India's involvement in Sri Lanka's tragic civil war has been far more consequential than the China factor in complicating the bilateral relations.
- Successive coalition governments in Delhi from 1989 to 2014 struggled to balance the competing interests in Chennai and Colombo.
- The strong mandate in 2014 had given Modi greater space to manage the competing imperatives on the Lanka policy.
- However, the Tamil question has not gone away.
- If the Gotabaya government can advance reconciliation with the Tamil minority, it will be easier for India to strengthen ties.
- But the Tamil issue is no longer a bilateral one between Delhi and Colombo.



- The Western powers have expressed deep concerns about the war crimes in the military campaign against the LTTE.

6. BILATERAL RELATIONS

6.1 RCEP and India

Why in News?

India has decided not to join the Regional Comprehensive Economic Partnership (RCEP) - at least for now.

What is the RCEP?

- It is a trade deal that is currently under negotiation among 16 countries.
- These countries include 10 member countries of the Association of Southeast Asian Nations (ASEAN) and 6 countries with which the ASEAN bloc has free trade agreements (FTA).
- The ASEAN countries have FTAs with India, Australia, China, South Korea, Japan and New Zealand.
- Negotiations on the details of the RCEP have been on since 2013.
- All the participants aim to finalise and sign the deal by November 2019.

What is happening now?

- The 15 other nations in this new trading bloc have come to a satisfactory conclusion of their negotiations.
- They will be moving forward to operationalize the pact without India.
- This isn't the conclusion that anyone could have wished.
- It is now clear that the government has turned protectionist.
- The recent optimistic statements about the perceived gains from RCEP by senior officials and ministers have turned out to be belied.
- As there were clear benefits of open trade with such a large proportion of the world's population and GDP, this is unfortunate.

Why the decision not to join RCEP is a risk?

- India risks being cut out of the rule-making process for the RCEP and give China further space in the regional trade and security architecture.
- There was some bitterness connected to how the issues played out.
- The state-controlled Chinese media in particular claiming that India had raised new concerns at the last minute, an allegation that was forcefully denied by Indian government sources.
- The Prime Minister himself insisted that India had participated in the negotiations in good faith.
- He said its eventual exclusion was determined by the Gandhian principle of ensuring that the poorest be benefited by every policy decision.
- But the greater trade openness would have benefited the poorest by raising their ability to buy goods produced at competitive prices.
- In the end, the issue was the protection of Indian industry and the fate of services trade, in which India believes it has a comparative advantage.

- India's concerns about rules of origin and the non-market nature of the economy of the People's Republic of China are entirely warranted.
- There should have been greater effort made by the other 15 countries to take these legitimate concerns on board.
- The final going statement by the 16 leaders was more conciliatory, noting India's outstanding issues.
- They said that India's join would depend upon how the other countries managed those issues going forward.
- But it is not clear under what circumstances that additional negotiation would take place, or if indeed all energy has gone out of the effort now.

6.2 China's Concerns on Quad

What is the issue?

- In a recent speech, the US Secretary of State Mike Pompeo said that the "Quad" would ensure that "China retains only its proper place in the world".
- In this context, here is a look at China's concerns about the "Quad."

What is Quad?

- "Quad" is a multilateral grouping among Japan, Australia, India and the United States.
- Quad convened recently at the level of senior officials on the margins of the East Asia Summit in Bangkok.
- Nuanced differences among the Quad countries seem to have narrowed down in the last 2 years.
- There are common references to the creation of a free, open and inclusive regional architecture, rules-of-the-road, freedom of navigation and over-flight, and, ASEAN centrality.

What is China's views on the Quad?

- There is a general understanding that the Quad would not take on a military dimension against any country.
- The strategic community in China, nevertheless, had branded it an emerging "Asian NATO".
- Notably, Japanese PM Shinzo Abe's "Confluence of Two Seas" address to the Indian Parliament gave a fresh impetus to the Quad concept.
- He had recently spoken of a new definition of a "broader Asia" taking shape at the confluence of the Indian and Pacific Oceans.
- This recognised the economic rise of India.
- It also brought Japan and India together as part of an immense network spanning the entirety of the Pacific Ocean, the US and Australia.
- It was seen as an open and transparent network that would allow people, goods, capital, and knowledge to flow freely.

What are China's key concerns?

- Beginning with maritime-centric concerns, Quad was gradually seen by China as a means to an end.
- China sees Quad as involving the use of the wider Indo-Pacific theatre to target China.
- It believes that the concept of the Indo-Pacific, and more particularly the Quad, is a plot by the US aimed at containing China's rise.



- It is particularly seen as opposing the Belt and Road Initiative (BRI), questioning its developmental finance and connectivity projects.
- Quad is seen as the foundation for a military alliance to undermine China's future.
- China, notably, remains wedded to "Asia-Pacific" for building an inclusive regional cooperative structure.
- So, for China, a switch to "Indo-Pacific" implies an erosion of its pre-eminence.
- In this backdrop, China sees ASEAN centrality as an opportunity to steer the Indo-Pacific away from a security agenda focused on China.

What are China's plans in this regard?

- Chinese State Councilor and Foreign Minister Wang Yi's recent remarks to foreign and Chinese journalists gains importance in the above context.
- His five-point formula entailed -
 1. making greater efforts to work together on the BRI
 2. forging China-ASEAN digital cooperation, including in 5G
 3. fully implementing the China-ASEAN FTA
 4. finalising regional rules-of-the-road based on the negotiating text of the Code of Conduct (proposed by China)
 5. engaging in joint maritime exercises (already undertaken between China and ASEAN in October 2018)
- China has also signed bilateral agreements with ASEAN countries to advance transportation routes.
- These include the existing economic corridors, China-Thailand Railway, China-Laos Railway and Jakarta-Bandung high-speed Railway.

Where does India stand in this?

- India's commitment to "strategic autonomy" has generally proved reassuring to China.
- It suggests that India would never agree to fully align itself with the US against China.
- The recent [Mamallapuram summit](#) between President Xi Jinping and PM Modi is a positive development.
- China is, however, worried about the advantages that the Quad process might offer to India in the Indo-Pacific.
- Much, though, will depend on China's actions and how others perceive her capabilities and intentions.

6.3 Feni River MoU - India and Bangladesh

Why in news?

- The Union Cabinet has approved a Memorandum of Understanding (MoU) between India and Bangladesh.
- The MoU was on the withdrawal of 1.82 cusecs of water from the Feni river by India for a drinking water supply scheme for Sabroom town in Tripura.

What is the dispute over Feni river?

- The Feni river forms part of the India-Bangladesh border.

- It originates in the South Tripura district.
- The river passes through Sabroom town on the Indian side, and meets the Bay of Bengal after it flows into Bangladesh.
- According to the Indian government, there has been no water-sharing agreement between the countries on the Feni previously.
- The dispute over the sharing of the river water has been long-standing.
- It was taken up between India and Pakistan (before the independence of Bangladesh) in 1958 during a Secretary-level meeting in New Delhi.
- According to the Bangladeshi reports, water has long been drawn from the Feni river through small pumps on the Indian side.

What is the approval for?

- In August 2019, India and Bangladesh held a water secretary-level meeting of the Joint Rivers Commission (JRC) in Dhaka.
- There, it was agreed to collect data and prepare water-sharing agreements for seven rivers.
- These are Manu, Muhuri, Khowai, Gumti, Dharla, Dudhkumar, and Feni.
- In this regard, an MoU was signed between the two countries during Bangladesh PM Sheikh Hasina's visit to India.
- The Cabinet approval now on this is ex-post facto, or having retrospective effect.



What is the significance of the MoU?

- The present supply of drinking water to Sabroom town on the southern tip of Tripura is inadequate.
- The groundwater in this region has high iron content.
- Given this, the MoU terms would benefit Sabroom town.
- Implementation of the water supply scheme would benefit a population of over 7000 there.
- **Other projects on the Feni** - In Tripura, a 150-metre long, 4-lane bridge across the Feni is being built between India and Bangladesh.
- It is expected to be completed by March 2020 at an estimated expenditure of Rs 73 crore.
- Once ready, it would connect Tripura with Chittagong port in Bangladesh, which is only 70 km away from the Indo-Bangla border.
- It would also play an important role in the proposed economic corridor through India, Bangladesh, China and Myanmar.
- Sabroom is expected to transform into the largest transit hub in the Northeast after the bridge is ready.

7. INTERNATIONAL ISSUES

7.1 Bolivian Crisis - Evo Morales' Exit

Why in news?

The Bolivian senator Jeanine Anez has declared herself the country's interim president after the resignation of Bolivian President Evo Morales.

Who is Mr. Morales?

- Mr. Morales is Bolivia's first indigenous President.
- He came to power in 2006, riding South America's so-called "pink tide".
- He rose to the top office through left-wing unionism.
- He presided over one of the most stable governments.
- But, cracks began to appear in his Movement for Socialism party when he sought a fourth consecutive term earlier in 2019.

How had Morales' Bolivia been?

- On coming to power, Morales promised economic development and equitable wealth distribution.
- Under his fairly good track record, Bolivia has seen a drop in extreme poverty, from 33% of the population in 2006 to 15% in 2018.
- His government also stepped up public investments, opened more schools and health clinics.
- The economy has also seen a steady growth rate.
- Mr. Morales made some major political mistakes as well.

What were the contentions during his term?

- Primarily, Morales failed to bring up a second-rung leadership in the Movement for Socialism to whom he could pass the baton of his "21st century socialist revolution".
- In 2016, his push to end presidential term limits through a referendum failed.
- He then said he accepted the verdict.
- But later, a constitutional court lifted the presidential term limits, allowing the President to seek re-election.
- This had got to be a concern to the Opposition, which claimed that the President's electoral participation itself was unconstitutional.
- This was followed by allegations of electoral fraud, which further weakened his stature.

What led to Morales's resignation?

- Pressure had been growing on Mr Morales since his narrow victory in the October 2019 presidential election.
- The result was called into question by the Organization of American States, a regional body.
- It had found "clear manipulation" and called for the election result to be annulled.
- The Opposition contested the results and launched widespread protests, demanding a fresh election.
- In response, Mr Morales agreed to hold fresh elections.
- But his main rival, Carlos Mesa, who came second in the vote, said Mr Morales should not stand in any new vote.
- The chief of the armed forces, Gen Williams Kaliman, then urged Mr Morales to step down in the interests of peace and stability.



- Mr Morales then announced his resignation.
- He had taken the decision in order to stop fellow socialist leaders from being "harassed, persecuted and threatened".
- He also called his removal a "coup".
- He has flown into exile in Mexico.
- In asylum in Mexico, he has vowed to fight the "coup".

What are the concerns with power transition?

- The forced resignation of Evo Morales has thrown the poorest country in South America into its biggest political crisis in 13 years.
- Both Morales and his opponents failed to ensure a peaceful, orderly transition.
- Violent protesters insisted on Mr. Morales's resignation. The police forces rebelled against the government. The Military generals forced the President to step down.
- All these destroyed the possibility of a peaceful transition.
- According to the Bolivian Constitution, if the President steps down, the Vice-President should take over.
- The heads of the Senate and chamber of deputies are the other leaders in the hierarchy who could assume acting presidency.
- But in the present case, all four officials, all Socialists, have resigned.
- This had left a vacuum, which the military could exploit.
- In this backdrop, Anez has declared herself the president without having a quorum in the parliament.
- More violence could be awaiting the country.

7.2 Protests in Iran - Petrol Price Hike

Why in news?

Nationwide protests broke out in Iran after the government announced petrol price hike by 50% for first 60 litres and 300% for above that each month.

What is the decision taken?

- Under the scheme, drivers with fuel cards would pay 15,000 rials (13 U.S. cents) a litre for the first 60 litres of petrol bought each month.
- Each additional litre would cost 30,000 rials.

What was the implication?

- Iran still has one of the lowest fuel prices in the world.
- But, the current price rise was enough to trigger people who are already reeling under high inflation, joblessness and a collapsing economy.
- Demonstrations broke out hours after the petrol price hike was announced, with thousands of people taking to the streets.
- The protesters chanted slogans against the Islamic regime in Iran.



- They carried “Death to Khamenei” posters, in a direct challenge to the country’s Supreme Leader Ali Khamenei, and burned down banks and stores.
- Security personnel reportedly unleashed violence on the protesters, while the government shut down the Internet.
- One person was killed and others injured in protests.
- The death occurred in the city of Sirjan, where protesters tried to set a fuel depot ablaze, but were thwarted by security forces.
- Both President Hassan Rouhani and Ayatollah Khamenei, the real ruler of Iran, have condemned the protests.
- The Islamic Revolutionary Guard Corps, the country’s top paramilitary force, has threatened to crack down on the demonstrations.

What is the government’s rationale?

- U.S. President Donald Trump decided in 2018 to pull the U.S. out of the 2015 nuclear deal and reimpose economic sanctions on Iran.
- This has dealt a blow to Iran’s economy.
- Inflation has risen to 40%.
- A quarter of Iran’s youth are unemployed.
- According to the IMF, the country’s economy is expected to contract by 9.5% in 2019.
- Iran’s currency, the rial, has plunged to record lows against the dollar.
- Evidently, the collapse of the nuclear deal has cost the Iranian economy dearly.
- Given these, the current measure is expected to generate 300 trillion rials (\$2.55 billion) per annum.
- President Hassan Rouhani said 75% of Iranians were “under pressure”, and the extra petrol revenues would go to them.

G.S PAPER III

8. ECONOMY

8.1 Core Sector Growth Contraction - September 2019

Why in news?

The latest set of economic data on the growth of the core sector industries was released recently.

What is the core sector index?

- The index of eight core industries comprises coal, crude oil, natural gas, steel, cement, electricity, fertilizer and refinery products.
- The index makes up 40.27% of the Index of Industrial Production (IIP).
- Given this, the recent data indicates the implications it could have on the industrial production data to be released.

What are the highlights?

- The core sector growth for the month of September 2019 contracted massively by 5.2% from the 0.5% contraction seen in August 2019.
- This is its worst fall in 14 years.
- The cumulative growth during the period of April-September 2019-20 was 1.3%.
- The current index was dragged down by coal mining which came in at -20.5%.
- Coal sector growth is at -20.5% vs -8.6% month-on-month.
- Crude oil output growth for September is unchanged at -5.4% month-on-month.
- Natural gas output growth is down at -4.9% vs -3.9% month-on-month.
- Refinery products growth is at -6.7% vs 2.6% month-on-month, steel output growth at -0.3% vs 5% month-on-month and cement output growth is at -2.1% vs -4.9% month-on-month.
- Electricity output growth for the month of September stood at -3.7% vs -2.9% month-on-month.
- The fertilisers sector was the only outlier in the numbers, with 5.4% vs 2.9% month-on-month.

What do the figures imply?

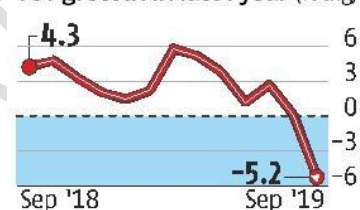
- Contraction in core sector output indicates that the much-expected economic recovery is still far away.
- Seven out of the eight core industries witnessed a contraction, with the coal sector being the worst hit.
- Given that core sector contraction was only 0.5% in August, the trend points towards a worsening of the economic situation.
- The dull core sector performance will likely affect GDP growth in the second quarter as well as the full financial year.
- The core sector represents the capital base of the economy.
- So the contraction in this suggests that the negative effects of the fall in consumption are spreading across the entire production chain.

What are the further challenges?

- Data released by the Centre for Monitoring Indian Economy showed that unemployment rose to a 3-year high of 8.5% in October 2019.
- This marks a sharp jump from 7.2% in September 2019.
- If growth fails to pick up, the unemployment scenario could get worse and further contribute to the demand slowdown.
- More worryingly, the current slowdown comes in the midst of a spree of aggressive RBI rate cuts amounting to 135 basis points since February 2019.
- Lending in the festival season has picked up with banks extending over Rs. 1 lakh crore in the period between mid-September and mid-October 2019.
- Yet, growth in credit this financial year till now is a flat 0.2% only.
- Festival season sales have shown an uptick with increase in sales of automobiles and consumer durables.

SHARP SLIDE

YoY growth in last 1 year (% chg)



Sector-wise data (% chg)

Fertiliser	5.4
Steel	-0.3
Cement	-2.1
Electricity	-3.7
Natural gas	-4.9
Crude oil	-5.4
Refinery products	-6.7
Coal	-20.5
Overall	-5.2

Source : Commerce and Industry Ministry

- But, it remains to be seen if this trend would sustain.

8.2 Relook at Deposit Insurance in India

What is the issue?

- The RBI recently capped withdrawals from the Punjab and Maharashtra Cooperative (PMC) Bank at Rs. 1,000.
- In this context, here is an overview at the nature of deposit insurance in India and the working of Deposit Insurance and Credit Guarantee Corporation (DICGC).

What is the crisis at PMC?

- The PMC bank allegedly enabled frauds worth Rs.6,500 crore by promoters of Housing Development Infrastructure Ltd (HDIL).
- More than 70% of PMC Bank's total loan book has an exposure to HDIL.
- HDIL's inability to repay its debt may lead to shutting down of the lender.
- This has placed thousands of depositors' money at risk.
- Denying people the right over their hard-earned money is a fatal hazard for the financial system, which runs on the trust of depositors.

What is deposit insurance?

- Deposit insurance is a measure to protect bank depositors, in full or in part, from losses caused by a bank's inability to pay its debts when due.
- The Centre has set up Deposit Insurance and Credit Guarantee Corporation under RBI to protect depositors if a bank fails.
- The deposit insurance scheme is mandatory for all banks and no bank can voluntarily withdraw from it.
- Compared to other BRICS nations, India today has the lowest deposit insurance cover to per capita income ratio.

What are the shortfalls and the reforms needed in this regard?

- **Insurance limit** - A limit is the highest amount an insurer will pay for a claim that an insurance policy covers.
- Most people agree that the insurance limit of Rs.1 lakh, set in 1993, needs to be raised to a higher amount.
- Suggestions are being made to raise it to Rs. 15 lakh, which will cover 90% of the accounts completely.
- **Coverage** - Customers who want more coverage than the statutory cover on their deposits should be able to purchase it by paying additional premium.
- This option should be extended directly to banks that wish to increase the coverage of deposits to above the statutory requirements.
- **NBFCs** - The lack of DICGC coverage for deposits at NBFCs (many of whom the RBI regulates) and primary cooperative societies is one such aspect.
- These entities often serve vulnerable sections and their depositors must not be left stranded in case of a crisis.
- **Withdrawal** - Another deficiency in the current DICGC cover is that the Rs.1 lakh insurance amount only needs to be released if there is a bankrupt.
- Without liquidation of the bank, no liability accrues on the insurance company to pay such a claim.



- The flaw in this scheme is obvious as the ‘freezes’ in withdrawal directed by the RBI essentially cut the depositor’s access to his/her money.
- Hence, during such periods (freezes), at least the statutory amount should be released.
- This will go a long way in preventing bank runs, which could be triggered when customers get alarmed about the ability of banks to repay their deposits.
- **Premium** - Currently the DICGC charges a flat 0.1% insurance premium on the deposits of banks.
- However, as suggested by an RBI panel in 2015, premium should be based on differential risk based on the lending practices of the bank, among other things.
- An SBI report states that 93% of the premium collected by the DICGC in 2018-19 came from commercial banks (public sector: 75%, private sector: 18%).
- But, over 94% of the claims settled (ever since the inception of the DICGC) have been those of cooperative banks.
- Clearly, poor governance in cooperative banks has been cross-subsidised by the better-performing commercial banks.
- The DICGC must thus draw inspiration from standard insurance practices.
- It should charge higher premiums from banks with a past history of higher claims.
- This will also provide a level-playing field for PSBs which are often disadvantaged due to tight government control and inflexibility.
- **Private insurers** - Another possibility to be analysed is that of bringing private sector insurers and re-insurers into the deposit insurance segment.
- This could drive down the premium prices.
- In FY19, the DICGC collected Rs. 12,043 crore as premium and settled Rs. 37 crore worth claims.
- Clearly, this is a lucrative area for private players who can bring in more accurate risk-based pricing of these policies.
- Notably, underwriting such policies entails significant risk-bearing on which the country’s economy thrives.
- So, it needs to be reinsured by credible entities.
- Given all these, the government must take purposeful steps in expanding and rectifying the deposit insurance scheme as a safety net of the financial system.

8.3 Strategic Disinvestment of PSUs

Why in news?

The cabinet committee on economic affairs (CCEA) has approved strategic disinvestment in BPCL and four other PSUs.

What is the decision?

- The government has agreed to sell its stakes in five state-run companies:
 1. Bharat Petroleum Corporation Ltd. (BPCL) - Centre’s entire 53.29% ownership

2. Shipping Corporation of India Ltd. (SCI) - Centre's entire 63.75% holding
 3. Container Corporation of India Ltd. (CONCOR) - 30.8% of Centre's stake
 4. Tehri Hydro Development Corporation India Limited (THDCIL)
 5. North Eastern Electric Power Corporation Limited (NEEPCO)
- Strategic disinvestment of CPSEs will be undertaken through already established procedure and mechanism.

What is the government's rationale?

- The government faces a massive shortfall in revenue and capital receipts.
- As of September 30, 2019, net tax revenue had only reached 36.8% of the budget estimate of Rs. 16.5 lakh crore for the full year.
- The non-debt capital receipts were at 17.2% of the fiscal's target of about Rs. 1.2 lakh crore.
- Given this, the share sale is aimed at helping the government narrow the widening fiscal gap.

What are the concerns with the decision?

- It is understandable if the government's aim was to exit unprofitable, non-strategic businesses.
- However, BPCL is a profitable refiner and oil marketing company that has consistently paid a healthy dividend.
- BPCL has also made investments in upstream energy resources and holds interests in overseas hydrocarbon blocks.
- To that extent, a full sale now deprives the government of all upside potential.
- The BPCL stake could fetch the exchequer about Rs. 59,000 crore.
- But, the decision to carve out and exclude the company's 62% holding in Assam's 3-million metric tonnes per annum Numaligarh refinery is disputable.
- [In the case of BPCL, the strategic disinvestment will be for BPCL minus Numaligarh Refinery, which will be retained by the government.]
- This would surely affect the price the government could get from a prospective buyer.
- Also, the lack of an explanation for the logic behind the move hints at politics taking precedence over any economic interest.

What are the challenges ahead?

- There is just a little over four months left in the financial year (2019-20).
- Given this, how the government intends to actually complete the transaction is uncertain.
- The process includes appointment of advisers, deciding on the pricing mechanism and initiating a transparent bidding process before finalising a buyer.
- Of the Rs. 1.05 lakh crore disinvestment target, just Rs. 17,364 crore has been realised so far.
- So, the Centre has little choice but to expedite these strategic sale proposals in double-quick time.

8.4 Alternative Investment Fund

Why in news?

Union Finance Minister recently said the government would set up an alternative investment fund (AIF) worth Rs 25,000 crore, in regards with stalled projects in real estate sector.

What is the AIF for?

- An internal survey showed that around 4.58 lakh housing units were stuck in India with over 1,600 realty projects stalled.
- In this regard, the objective of AIF is to provide relief to developers with unfinished projects.
- This would ensure delivery of homes to buyers.

How does it work?

- The AIF will provide funds to bail out stalled real estate projects with less than Rs. 2 crore a unit in metros and Rs. 1 crore in other places.
- The government will act as the sponsor of the fund and infuse funds up to Rs 10,000 crore.
- The Life Insurance Corporation of India and State Bank of India would also infuse money.
- *SBICAP* Ventures will be the investment manager for the fund.
- The Cabinet also approved an establishment of 'Special Window'.
- This is to provide priority debt financing for completion of stalled housing projects in the affordable and middle-income housing sector.
- Special Window will provide last mile funding to projects meeting the below criteria:
 1. Net-worth positive
 2. Affordable & middle-income housing project
 3. On-going projects registered with RERA (Real Estate Regulatory Authority)
 4. Reference by existing lender
 5. Include stressed projects classified as NPA & NCLT

SBICAP

- SBI Capital Markets Ltd. (SBICAP) is one of India's leading domestic Investment Banks.
- It offers the entire gamut of investment banking and corporate advisory services.
- These services encompass Project Advisory, Structured Debt Placement, Capital Markets, Mergers & Acquisitions, Private Equity and Stressed Assets Resolution.

How will it benefit?

- The Alternative Investment Fund could help revive the stressed real estate sector.
- The move will help relieve financial stress faced by large number of middle-class homebuyers who have invested their hard-earned money.
- This is also expected to release large amount of funds stuck in these projects for productive use in the economy.
- The scheme will also apply to projects that have been declared as non-performing assets by banks and to those lined up before the insolvency court.
- So, apart from real estate promoters, this will also aid lenders, mainly finance companies and banks, whose funds are locked up in the projects.

Why is the move significant and what lies ahead?

- The real estate sector is one of the biggest providers of jobs.



- Importantly, the sector also has a huge multiplier effect in the economy.
- Industries ranging from cement and steel to paints and sanitary ware stand to reap the benefits of a healthy real estate sector.
- Given this, the critical part now will be identifying the genuine projects in need of support and ensuring that biases do not creep in, in implementation.
- Also, attracting more investors into the AIF will be important.
- In this regard, the interests of the sovereign funds and other private investors should be followed upon quickly.
- Also, money should be released from the AIF right away so that the trickle-down effect is felt before the end of this financial year (2019-20).
- The government, through its latest move, and the RBI with successive rate cuts and liquidity infusion, have set the stage.
- The task now is for the real estate industry to capitalise on this facilitation.

8.5 Moody's negative rating for India

Why in News?

Ratings agency Moody's has revised the outlook on its sovereign rating for India from stable to negative.

Why this rating for India matters?

- Moody's India rating is a **notch higher** than that of Standard & Poor's (S&P).
- The outlook revision of the rating now may well be to compensate for its past optimism on India.
- Yet, the outlook revision has to be seen as a **warning** that if the economy fails to bounce back soon enough, the sovereign rating could be up for an unfavourable review.
- With due respect to Moody's, none of the issues that it has highlighted is unknown.

What are the concerns?

- The growth slowdown and its effects on the fiscal deficit and borrowings are the main worries.
- Tax revenue growth is nowhere near budgeted levels.
- With the slowdown extending into the third quarter of 2019, it is clear that tax revenues will undershoot by a wide margin.
- The government has been forced to spend more to give a leg up to the economy.

What are the projections?

- **Efforts** - The government pushed its expenditure on capital projects.
- In October, 2019, it gave away corporate tax concessions amounting to a whopping Rs.1.45 lakh crore.
- Even with the boost from the dividend payout of Rs..76 lakh crore from the Reserve Bank of India, the budget arithmetic is optimistic.
- **Fiscal deficit** - It now appears certain that the government will miss the fiscal deficit target of 3.3% of GDP.
- Moody's has projected that the deficit will slip to 3.7% of GDP this fiscal year of 2019-2020.

- Ratings agencies are ultra-sensitive to fiscal deficit overruns but the positive factor here is that India's borrowings are wholly domestic.
- **External debt to GDP** - It is just 20% but the ratings do have an impact on investor sentiment.

When will the revival take place?

- The Moody's outlook revision comes when there are faint signs of a revival in the economy.
- It may be another quarter or two before growth picks up - the second quarter numbers due in November, 2019 may show GDP growing at less than 5%.
- But the festive season uptick in sales of automobiles and white goods does point to the return of the consumer to the market.
- Of course, the possibility that it was an artificial boost driven by the big discounts that were on offer cannot be ruled out.
- There are other positive signals such as the increase in bank credit off take reported by the RBI for the second successive fortnight.

8.6 Tax Buoyancy and Tax Devolution

What is the issue?

- Poor responsiveness of tax collection to economic growth poses new challenges for norms on sharing taxes with the states.
- In this regard, here is a look at tax buoyancy trend and its impact on tax devolution.

What is tax buoyancy?

- Tax buoyancy is one of the key indicators to assess the efficiency of a government's tax system.
- Generally, as the economy achieves faster growth, the tax revenue of the government also goes up.
- Tax buoyancy explains this relationship between the changes in government's tax revenue growth and the changes in GDP.
- In other words, it measures the responsiveness of tax mobilisation to economic growth.

What are the determining factors?

- Tax buoyancy depends largely on -
 - i. the size of the tax base
 - ii. the friendliness of the tax administration
 - iii. the reasonableness and simplicity of the tax rates
- Look at just one year's tax buoyancy to arrive at any conclusion on the tax system's efficiency would be unfair.
- There are many other factors at play in either boosting or pulling down tax buoyancy.
- Also, there is a lag effect of taxation policies.
- This can be captured only by examining the trend over a longer period of time.
- Thus, tax buoyancy in a year may reflect the impact of an adverse set of developments during that year.
- However, usually, the longer-term trend of tax buoyancy during a period of about 5 years results from policy changes made a few years earlier.

- So, the lag effect of policy changes on tax buoyancy can hardly be ignored.

How has the trend been?

- The highest tax buoyancy rate for the Union government during the last 28 years after economic reforms was achieved in 2002-03.
- Tax buoyancy that year had risen to 2 at that time.
- This meant that the Centre's gross tax revenues had grown at double the rate at which the Indian economy had grown in nominal terms.
- However, just a year before tax buoyancy hit the record high of 2, gross tax collections in 2001-02 actually declined.
- This was even as the economy had clocked a nominal growth rate of just over 8%.
- So, in the 5 years of 1999-2000 to 2003-04, there was poor tax buoyancy in 2 years and commendable tax buoyancy rates in the other 3 years.
- The period thus holds the record for both the highest and the lowest tax buoyancy rates in post-reforms India.
- During the 2004-05 to 2008-09 period, the first 4 years recorded tax buoyancy between 1.3 and 1.7, a creditable performance.
- In the fifth year (2008-09), there was a sharp fall in tax buoyancy to about 0.2.
- This was due to the impact of the global financial meltdown and the tax measures taken to alleviate its impact on the economy.
- Thus, tax buoyancy was fairly moderate between 1 and 1.3 in 4 of these 7 years between 1991-92 and 1997-98 and was poor in the remaining 3 years.
- But, the tax reforms undertaken during this period did help boost the tax buoyancy rate in the following decade.
- Similarly, the tax reforms during 1999-2004, particularly in the indirect taxes regime, helped tax buoyancy in the 2004-09 period.
- The period of 4 years between 2009-10 and 2011-12 saw tax buoyancy quite irregular.
- The 2014-19 period saw steady performance in tax buoyancy.
- In the first half of 2019-20, the Centre's gross tax revenue grew by just 1.5% over the same period of 2018-19.
- However, tax buoyancy fell further to about 0.15.
- This is on the assumption that the nominal economic growth in the first half is 10%.

8.7 SEBI's New Rule on Default

Why in news?

SEBI (Securities and Exchange Board of India) had asked listed companies to publicly disclose any default beyond 30 days.

What is the new rule?

- Default in repayment of principal or interest on loans from banks and financial institutions are to be disclosed.
- Such disclosure shall be made promptly, but not later than 24 hours from the 30th day of such default.
- In August, 2017, SEBI had issued a similar circular.
- It asked all listed entities to make such “disclosures within one working day from the date of default at the first instance of default.”
- However, SEBI had deferred the implementation of that rule hours before it was to come into effect on October 1 2017.
- The new default rule made now will come into force on January 1, 2020.

What is SEBI’s rationale?

- There is a gap in the availability of information, to different classes of investors, on defaults on loans by listed companies.
- Investors come to know of such defaults much later.
- Unlike this, a default on repayment of a bond or a similar instrument issued by a company has to be disclosed immediately.
- SEBI thus says the change was necessary to address this information asymmetry.
- An early disclosure can act as an early warning system.
- This can help investors make considered decisions on whether to stay on or sell the stock and exit, reducing their losses.
- In the current scenario, a meltdown such as those at [IL&FS](#), [DHFL](#), or [PMC](#) Bank, can leave many investors wary.
- It is thus expected that SEBI’s move will lead to greater credit discipline in the banking industry.
- **RBI’s move** - The RBI’s February 12, 2018 circular directed banks to start the process of resolution or restructuring of a loan even if the default was for only a day.
- The April 2, 2019 ruling of the Supreme Court struck down the circular.
- Following this, the RBI revised its rule in June 2019 offering a 30-day window to classify an account as a Non Performing Account.
- SEBI’s circular now could be seen as a sign of regulatory synergy with the RBI.
- **Investments** - In 2017, SEBI restrained at the last minute on implementing the disclosure norms on default.
- But, 2018 and 2019 have seen the collapse of several corporates.
- Little was known about the true state of such companies before they went into bankruptcy.
- That too was based on anecdotal evidence with credit rating agencies way behind the curve.
- Resultantly, the erosion of faith could be detrimental to boosting fresh investment.
- It is now essential for both SEBI and the government to hold firm on the decision taken to instill confidence in investors and other stakeholders.

9. INFRASTRUCTURE

9.1 K-Fon - Kerala's Internet Connection Project

Why in news?

The Kerala government has officially cleared the K-Fon project to provide free high speed Internet connection to over 20 lakh BPL families in the state.

What are the key provisions?

- The government accorded administrative sanction for the Rs. 1548 crore project to be completed by December 2020.
- The project envisages a State-wide optical fibre network to link houses and offices.
- This is to be set up by Kerala State Electricity Board Limited and Kerala State IT Infrastructure Limited.
- The project will also provide Net connectivity at affordable rate for families that do not fall in the BPL bracket.
- Licensed Internet service providers and cable TV operators can utilise the optic fibre network to provide services to citizens.
- The scheme is being implemented with financial assistance from the KIIFB (Kerala Infrastructure Investment Fund Board).

What are the benefits?

- As many as 30,000 government offices and educational institutions would be linked through the high speed network.
- It would also give a push to the digitalisation of government services like the e-health programme.
- IT parks, airports and seaports would also be benefited from the linkage.
- Small-scale enterprises using e-commerce platforms stand to gain from K-Fon.
- High quality video conferencing and transport management are other significant advantages.
- The K-Fon will also link all mobile towers in the State for better mobile Internet services.

What is the significance?

- If things go as per plan, Kerala could have near-universal Internet access in a little over a year's time.
- Kerala is a State that already tops in human development indicators in the country.
- When K-Fon is complete, Kerala will be ready for a steep digital evolution.
- What makes it commendable is its recognition that Internet access is a basic human right.
- No other Indian State has recognised Internet access in this manner till now.
- This is also in sync with what the UN has been articulating in recent years.
- Internet's role is increasingly recognised by it in enabling freedom of speech and reducing inequality, among other things.

How is internet penetration in India?

- India has made huge leaps in providing Internet access to its people in recent years.
- However, internet have-nots still exist in the millions in India.
- The best-performing State, Delhi-NCR, has an Internet penetration of 69%.

- The second-best is Kerala, with just 54%.
- Internet penetration is significantly higher in urban areas than it is in rural areas.
- It is also significantly higher for men than it is for women.
- So, the governments need to play an interventionist role in plugging this gap.
- In this context, Kerala's plan for Internet roll-out is worthy of emulation by other States as well.

9.2 Swachh Bharat Mission - Relook at Urban Approach

What is the issue?

- Swachh Bharat Mission (SBM) is being executed by two different ministries on Drinking Water and Sanitation (rural) and Housing and Urban Affairs (urban).
- Here is a look at SBM approaches in rural and urban areas, and the drawbacks in SBM (Urban).

What is the SBM approach in rural areas?

- The need for a dedicated sewerage network is less in rural areas as the toilets are connected with in-house soak pits.
- Domestic waste in rural areas is also managed in a much better manner.
- It is segregated at the household level and a majority of it is used in the fields.
- Thus, improving the cleanliness level in a rural area is much less complex than in an urban set up.
- However, the major challenge in the rural areas is to change the mindset of the populace.
- Persuading them to start using household toilets rather than defecate in open areas is a challenging task.
- Notably, majority of the households do not have toilets in their homes.
- So, the main component of Swachh Bharat Mission (Grameen) was to construct household latrine.
- Another was to focus on information, education and communication (IEC) activities.

What is the case in urban areas?

- Disposal of solid waste has 3 key components - waste collection, transfer of the waste, and proper disposal at the landfill site.
- The task of waste collection and its transfer to the landfill site requires both manpower as well as an efficient transportation system.
- The segregation of waste can be either at the source or at the landfill.
- Segregation at source is more economical.
- At the landfill, it is done by either using high-end segregation plants or manual conveyors.

What are the challenges in this?

- **Solid waste** - In most urban areas, disposal of solid waste is primarily the responsibility of municipalities.
- However, these municipalities are not equipped with the manpower, financial resources and technology for the task.
- Most of them are dependent upon the state governments for resources.

- These municipalities do not have sufficient human resources in terms of engineers or sanitation staff to manage the waste.
- Landfill site management is very poor due to lack of technical know-how.
- **Sewerage/liquid waste** - Another major challenge is to manage sewerage in urban areas.
- Merely constructing toilets cannot solve the problem, as urban areas require proper sewerage network.
- The soak pit system that works in rural areas cannot work in urban areas due to space constraint and increasing population density.
- The job of laying the sewerage network is again distributed between the state's public health engineering department and the municipalities.
- SBM (Urban) strategy's main focus is on the construction of individual household toilets, community toilets, public urinals and IEC activities.
- Worryingly, funds earmarked for solid waste management are minimal.
- Similarly, there is limited provision of funds for laying the sewerage networks.
- Evidently, the strategy used for Swachh Bharat Mission (Grameen) may not yield results in the urban mission.

10. AGRICULTURE

10.1 Ethanol Production

Why in News?

The Ministry of Environment and Forests announced that mills would not require separate environmental clearance to produce additional ethanol from B-heavy molasses.

Why was this decision taken?

- The decision comes at a time when the country is looking at heavy oversupply of sugar, and a host of measures have been launched by the central government to address the systemic issue.
- The ministry clarified that the proposals to undertake additional ethanol production from B-heavy molasses/sugarcane juice/sugar syrup/sugar would be considered.
- It will be considered under the provisions of the EIA (Environmental Impact Assessment) notification, 2006, by an expert appraisal committee for granting environmental clearance.

What are ethanol and molasses?

- Ethanol, or ethyl alcohol, is a liquid that has several uses.
- At 95% purity, it is called rectified spirit and is used as the intoxicating ingredient in alcoholic beverages.
- At 99%-plus purity, ethanol is used for blending with petrol.
- Both products are made from molasses, a by-product of sugar manufacturing.
- For making sugar, mills crush sugarcane which typically has a total fermentable sugars (TFS) content of 14%.
- The TFS component consists of sucrose along with the reducing sugars glucose and fructose.
- Most of this TFS component gets crystallised into sugar, and the remaining part is called molasses.

What are the Molasses stages?



- The molasses go through three stages - **A, B, and C**, the last one being where the molasses are most un-crystallised and non-recoverable.
- The 'C' molasses roughly constitute 4.5% of the cane, and have a remaining TFS of 40%.
- After C-molasses are sent to the distillery, ethanol is extracted from them. Every 100 kg of TFS yields 60 litres of ethanol.
- Thus, from one tonne of cane, mills can produce 115 kg of sugar (at 11.5% recovery) and 45 kg of molasses (18 kg TFS) that gives 10.8 litres of ethanol.

How more ethanol can be produced?

- Mills can also produce only ethanol from sugarcane, without producing sugar at all.
- In this case, the entire 14% TFS in the cane is fermented. Here, a mill can make 84 litres of ethanol and zero kg of sugar.
- In between the two extreme cases, there are intermediate options as well, where the cane juice does not have to be crystallised right till the final 'C' molasses stage.
- The molasses can, instead, be diverted after the earlier 'A' and 'B' stages of sugar crystal formation.
- Mills, then, would produce some sugar, as opposed to fermenting the whole sugarcane juice into ethanol.
- If ethanol is manufactured using 'B' heavy molasses (7.25% of cane with TFS of 50%), around 21.75 litres will get produced along with 95 kg of sugar from every 1 tonne of cane.
- The latest move by the government is to waive the environmental clearance required to produce ethanol at this stage.
- In the press release, it has been explained that this was done since this process does not contribute to the pollution load.

Why focus on more ethanol?

- Mills currently have all-time-high stocks of sugar, and they have been at loggerheads with farmers over non-payment of dues.
- Mill owners insist that the reason behind their woes is excess production of sugar and fall in its price.
- Under the circumstances, ethanol is the only real saviour - both for mills and cane growers.
- In September 2019, the government approved an increase in the price of ethanol to be procured by public sector oil marketing companies from sugar mills for blending with petrol for the 2019-20 supply year.
- The Cabinet Committee on Economic Affairs also allowed conversion of old sugar into ethanol.
- This again is expected to help mills deal with the current overproduction in the sweetener and make timely payments to farmers for the cane delivered by them.
- Ethanol production has been additionally facilitated with the government mandating 10% blending of petrol with ethanol.

10.2 Punjab's Groundwater Crisis

Why in news?



The Punjab Agricultural University (PAU), Ludhiana, recently decided to strengthen maize, the most important alternative to rice, to address the water crisis.

What is Punjab's water crisis?

- Over 70% of blocks in Punjab are in the dark zone on underground water stocks.
- At current rates of depletion, Punjab's entire subsurface water resource could be exhausted in a little over two decades.
- To conserve the resource, the Punjab government brought a law in 2009 to mandatorily delay transplantation of paddy beyond June 10.
- This is when the most severe phase of evapo-transpiration gets over.
- This has delayed harvesting to end-October and early November.
- This is when atmospheric and wind conditions cause particulate matter and gases from burning paddy stubble to hang close to the surface.
- So, the law has been blamed for creating the bad air crisis of North India, especially Delhi.
- There is serious discussion on finding a sustainable solution to address Punjab's massive groundwater crisis.

What is the move thus?

- In the above context, there is a strong demand for diversification of crops, and a move away from water-guzzling paddy.
- The PAU has emphasized on moving from paddy to maize.
- It has suggested working towards narrowing the gap in economic returns between the two crops - Paddy and Maize.
- The idea is to persuade farmers towards increasing the area under maize.

How is maize cultivation across the country?

- Of the 42-odd lakh hectares under cultivation in Punjab, maize was grown on just 3.8% in 2019.
- The area under maize in Punjab is only 1.6% of the total area under maize in India (98 lakh hectares).
- Nearly 46% of India's maize area is in the pensinsular states of Karnataka, Telangana, and Andhra Pradesh.
- Madhya Pradesh and Maharashtra too, have large areas under maize.

What is the scope in Punjab?

- In Punjab, maize can be grown in three seasons - spring (March-June), rabi (December-April) and kharif (June-October).
- Kharif is the state's main maize season.
- There is need to increase the area under kharif maize, which is also the paddy season.
- Spring maize is grown on around 25,000 hectares.
- But the crop is not promoted due to its long duration, and because it consumes water during the hot summer days.

What are the limitations?

- Unlike paddy and wheat, which are procured by the government, maize is sold in the open market and is subject to the actions of private players.

- Maize is one of 24 crops for which the government fixes a minimum support price, but procurement is not its responsibility.
- This is because maize is primarily a “feed” crop.
- Notably, of the 28 million tonnes produced in India, only 13% is consumed as food.
- Fluctuating prices of maize has also been a disincentive for farmers.

What is needed for Punjab to effectively diversify from paddy?

- The area under non-basmati paddy must be cut by at least 12 lakh hectares.
- [Non-basmati paddy is currently grown on 23-26 lakh hectares.]
- Instead, maize, basmati, and cotton must be grown on this land.
- Also, areas under agro-forestry and vegetables should be increased.

What should the government do?

- Developing more high-yield and good varieties of maize for which there is a demand in the market should be taken up.
- But alongside this, the government must stop free power for paddy.
- This is necessary to disincentivise its cultivation and check overexploitation of underground aquifers.
- [A very large number of tubewells (more than 14 lakh in 2015-16) running on free power extract virtually endless amounts of water across the state.]
- The government could also earmark a portion of the Minimum Support Price budget for maize.
- By doing so, farmers could be compensated in case the price of maize falls below what has been fixed by the government.
- Besides government measure, conditions should be created for farmers to move voluntarily away from paddy.
- Farmers will themselves go for such crops without the government’s efforts if there is a market for low water-consuming crops, and a good price for such crops.

11. SCIENCE & TECHNOLOGY

11.1 Cyber Attacks on Kudankulam Nuclear Unit

Why in news?

The Nuclear Power Corporation of India (NPCIL) admitted to a malware attack on one of the computers in Kudankulam nuclear power plant, Tamil Nadu.

What was the attack?

- The NPCIL admitted that computer systems at the Kudankulam nuclear power station had been infected with malware since early September 2019.
- The NPCIL infection is said to be caused by Dtrack.
- Dtrack is a Trojan virus that creates backdoors into computer networks.
- This was originally developed and commonly used by North Korean hackers with state backing.

- However, there are many variations of Dtrack, and the code may have been adapted by another group.

What were the other recent attacks?

- There have been multiple ransomware assaults on electric power billing systems across the world.
- Known cyberattacks on Indian power sector assets include the -
 - i. November 2017 malware attack on the Tehri Dam in Uttarakhand
 - ii. ransomware attack on West Bengal State Electricity Distribution Company in May 2017
 - iii. attack on Rajasthan's discom (February 2018)
 - iv. attack on Haryana's discoms (March 2018)
- Kudankulam is high on the list of such targets because it is both part of the nuclear programme, as well as the power grid.

What is the looming threat?

- Power grids are a tempting target for terrorists, in addition to being vulnerable in the case of hostilities with any other nation.
- Cyber-threat researchers estimate that a large number of assets on India's national power grid could be vulnerable to attacks.
- Cyber-attacks on nuclear installations and other power sector assets have become increasingly common.
- Some attacks have been carried out by state actors, while others are by cybercriminals to steal data, or extract ransom.
- The infamous Stuxnet attack on Iran's nuclear sector in 2010 is believed to have set back its nuclear programme by years.
- Evidently, an aggressive cyber-assault could cause a nationwide outage.

What are the challenges to ensuring security?

- The Indian Computer Emergency Response Team (CERT-In) claims to be aware of these vulnerabilities.
- It is also reported to have issued advisories in many instances.
- However, its scope is limited as it is the responsibility of the organisation owning the asset to protect it.
- It is also true that much of the equipment on the power grid is old.
- They are based on outdated chips with vulnerabilities that cannot be patched.
- The linking of all the regional grids to the national grid makes it easier to supply power to any region on demand.
- However, it also makes the entire infrastructure more vulnerable to contagion from cyber-attacks.

What are the measures in this regard?

- The government has been trying to set up a system for cyber-protection of infrastructure.
- The National Critical Information Infrastructure Protection Centre (NCIIPC) is proposed to be the coordinator.
- Dedicated sectoral CERTs, such as CERT-Thermal-NTPC and CERT-Transmission-POWERGRID would be responsible for guarding power assets.



- However, the government has to address the bureaucratic hassles in assigning the responsibility.

12. ENVIRONMENT

12.1 Greta Thunberg's Climate Message

What is the issue?

- In September 2019, a teenager Greta Thunberg addressed the UN climate change summit, which made widespread impact on the climate change discourse.
- There is more to the Swedish teenager-activist's point of view than mere emotion and passionate commitment.

What were Greta's remarks?

- Greta accused world leaders of ignoring or deliberately looking away from the responsibility they have towards the young today and in the future.
- Her arguments would have pleased Mahatma Gandhi.
- He too thought that economics concerned solely with wealth undermines ethical responsibilities.
- It ignores justice as a primary human yearning and right.
- This was also the underlying theme of Greta's presentation to the leaders and representatives of different countries.
- One well-recognised issue is the direct connection between economic growth and the state of the environment.
- It is nearly half a century since the idea of 'limits to growth' was recognised and proposed as a ground for change in development policies.
- But still, those advocating speedy and high economic growth have been indifferent to the limits posed by nature on the theoretical scope of growth.

Who get to be the victims of this indifference?

- Greta presented herself as a victim of the world leaders' indifference to climate change.
- She said, "you have stolen my childhood with your empty words."
- It is true because her campaign on climate change had cost her more than just school attendance.
- She was referring to the collective future of those who are young today and also to future generations.
- It is not the distant generations that will face the consequences of climate change; the crisis is already upon us.
- The futures of these young ones are bleak, not in the context of economic slowdown but climate change.
- Certainly, as observed by Greta, higher income or status would not help to avoid the consequences of climate change.
- But not everyone is convinced about this argument.
- Richer nations as well as richer people in every nation continue to believe that they can buy relief and escape from the climate change consequences.

What was Greta's idea on adult-child relations?

- Ms. Greta struck a new, unfamiliar note in adult-child relations.

- Human beings were used to deriving hope from their progeny.
- Children give them a sense of continuity, a symbolic conquest over death.
- Societies expect their long-pending problems to be solved by members of the young generation, with their creative and intellectual strength.
- It was this sentiment that Ms. Greta was referring to when she said, “You all come to us young people for hope.”
- The steps currently under consideration for containing the consequences of climate change are far too inadequate to cope with the crisis.
- She thus reminded her audience that carbon emissions are crippling the capacities of the young in the early years.
- Notably, in cities like Delhi, doctors have been warning that children suffering from asthma cannot be expected to have a normal adolescence and youth.

Why are Greta’s remarks notable?

- Paradoxically, among millions of teenagers like her, not all are as apprehensive about the impending future.
- In fact, the growth-centric model of progress and the consumer goods appeals to the vast population of the young in many countries today.
- They might also feel quite confident that their leaders will find the way forward against climate change.
- Ms. Thunberg does not represent this vast crowd.
- She was not speaking on behalf of the children and youth in any particular country, but representing the voice of the young in a generic sense.
- Her Swedish education has made her critically aware of what is going on, imparting to her a sense of urgency and impatience to act.
- Gladly, in many countries, countless children have begun to identify with her.
- With new curricular initiatives taken in all national systems of education, school-going children now know a lot more about the meaning of climate change than their parents.

12.2 Need for Amending 1981 Air Act

What is the issue?

- As Delhi’s Air Quality Index crosses 500, the national capital has officially entered the public health emergency category.
- This highlights the dire need for amending the 1981 Air Act and making it more compatible with contemporary India.

How serious is air pollution in India?

- Air pollution in India is not simply an environmental problem, but a major public health concern.
- It affects all those breathing in the polluted air - children, the elderly, women and men alike.
- The Centre for Science and Environment reported that air pollution kills an average 8.5 out of every 10,000 children in India before they turn five.
- Similarly, the WHO in 2016 reported that pollution has led to the deaths of over 1 lakh children in India.



- Overall, several internationally acclaimed studies have affirmed that life expectancy in India has declined anywhere between 2 to 3 years.
- India is in a worse situation compared to its global counterparts in this regard.
- According to Greenpeace, 22 of the world's 30 most polluted cities are in India.
- [Delhi has yet again bagged the position of the world's most polluted capital.]
- These are grim figures, especially when compared to India's neighbours: Five in China, two in Pakistan and one in Bangladesh.
- In 2018, India was placed in the bottom 5 countries on the Environmental Performance Index.
- It was ranked 177th out of 180 countries, along with Bangladesh, Burundi, Democratic Republic of Congo, and Nepal.

What are the implications?

- Currently, breathing in Delhi's air is similar to smoking 22 cigarettes in a day.
- With toxic air and the lax liability system, young children's health and quality of life are being significantly affected.
- Schools have been shut, children are complaining of breathing problems.

How have other countries managed?

- In the United States, the Clean Air Act has proven that public health and economic progress can go together.
- For instance, the aggregate national emissions of the six common pollutants in the USA dropped an average of 73% from 1970 to 2017.
- Through one piece of legislation, the US has challenged multiple sources of pollution, airborne or motor vehicle-led.
- Similarly, after declaring a war on pollution, Chinese cities reduced particulate concentration by 32% in 2018.

How worrying is the policy response in India?

- The state and Central governments are simply indulging in blame-games.
- There is a deafening silence at the helm of policymaking because it has not become an electoral priority for political leaders.
- Besides a few underfunded programmes, the government shows no willingness to bring a bill or law with stringent provisions.
- In recent times, the government has worked on drafting policies and programmes to alleviate pollution.
- But there is little to no legal mandate in these, and a budgetary allocation of as little as Rs 300 crore under programmes such as the National Clean Air Programme.
- Given this, no true enforcement of targets and goals is guaranteed.

What are the drawbacks with the 1981 Act?

- Under the 1981 Air Act, the Pollution Control Boards are presently unable to fulfill their mandate as watchdogs against polluting industries.
- In its present form, India's Air Act does not mention or prioritise the importance of reducing the health impact of rising pollution.



- It is therefore essential to make a rework on the 1981 Air Act that governs the country's pollution control system.

What should the new law bring in?

- A new bill will plug many loopholes in the 1981 Act.
- It could align the functions and priorities of the Pollution Boards towards reducing the adverse impact of pollution on human health in India.
- Primarily, a new law should make 'protecting health needs' to become the central mission that the pollution boards work towards.
- When the air quality goes from normal to toxic and hazardous, the boards must be empowered to declare public health emergencies.
- They should have the power to temporarily shut down all polluting activities.
- Accountability and deterrence are essential in ensuring that industries comply with emission standards.
- While the boards cannot levy penalties, they should be empowered to encash environmental compensations from polluting industries.
- This would be a strong reinforcement for industries to adopt cleaner technologies and comply with standards.
- The industries and their respective state boards must be ranked in order of their efficiency and programme delivery.
- This would incentivise the industries to better themselves through environmental compensations.
- Finally, in a federal set-up, the Centre and states must work in synergy to ensure that targets set for the country and states are fulfilled.
- The new law must thus push Central and state boards to convene joint sittings with a multi-sectoral participation from concerned ministries.
- Multi-sectoral participation is crucial as air pollution is not, and has never been, a problem with a single solution.
- With this need in place, ensuring appropriate political leadership is essential in giving shape to public commitment.
- Therefore, the new law must give an additional mandate to a senior minister or else the prime minister's office needs to be involved directly.
- The pollution targets must be made public every year to have greater public transparency and control.

What are the priorities for India now?

- The Indian government needs to identify the tangible benefits that concrete legislation on air pollution has brought across the world.
- Under the functioning programmes, higher targets need to be set, penalties need to be stricter, and the mandate needs to be stronger.
- Breathing clean air is the fundamental right of every Indian citizen.
- Hence, human health must become a priority when it comes to legislating on air pollution.

12.3 Post-2020 Emission Market Scenario

What is the issue?

- With market mechanisms mandated under the Paris Agreement coming into operation, the CDM's future is uncertain.
- The next climate conference to be held in Madrid in December 2019 has the challenge of deciding how markets can be deployed in the service of climate.

What is CDM?

- The Clean Development Mechanism (CDM) is a product of the Kyoto Protocol.
- It is one of the market instruments that can help industry as well as climate.
- Under the CDM, emission-reduction projects in developing countries can earn certified emission reduction credits.
- These saleable credits can be used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

How has CDM's role been?

- Along with China and Brazil, India is a leader in CDM since its inception in 2007.
- A number of small and medium projects in the field of energy efficiency and renewable energy were set up in India in the last two decades.
- Most of these owe their origin to the financing support available from CDM.

What would Paris Agreement's implementation mean?

- The situation may change in 2021 when market mechanisms mandated under the Paris Agreement come into operation.
- Most developed countries are strongly opposed to permitting the carryover of CDM projects and their credits into the Paris Pact's mechanisms.
- The credits lying unsold with the CDM projects could lose their economic worth.
- Besides, the CDM projects will have to go through the process of validation and registration again with the new mechanism.
- This will involve additional financial and administrative costs.

What is the implication for India?

- India has about 250 million Certified Emission Reduction (CER) units under CDM issued by the UNFCCC, the global administrator of Kyoto mechanisms.
- The number of CDM projects registered in India is 1,376 (out of total 7,979 globally) and 89% of these projects are still active.
- India would lose substantially if the doors on the existing CDM projects and credits are closed in 2020.

What are the advantages of CDM?

- CDM has failed to demonstrate environmental benefits in addition to the "business as usual" scenario, or provide technological benefits.
- Its transition to new mechanisms will have adverse impacts on carbon prices and investor sentiments in future markets.



- Nevertheless, it is to be noted that credits for CDM projects are issued after their compliance with internationally approved criteria is ascertained.
- CDM project proponents should be free to choose available cost-effective technologies as long as the objective of emission reductions is achieved.
- Moreover, “additionality” in CDM projects should not be judged solely on the criterion of technology.
- They are also about investments and overcoming market barriers.
- All CDM projects have passed these tests.

12.4 Smallest Annual Ozone Hole

Why in news?

An “ozone hole”, which builds up over the Antarctic region this time of the year, has been found to be the smallest since it was first discovered in the 1980s.

Why is ozone important?

- Ozone is, chemically, a molecule of three oxygen atoms.
- It is found mainly in the upper atmosphere, an area called stratosphere, between 10 and 50 km from the earth’s surface.
- Though it is talked of as a layer, ozone is present in the atmosphere in rather low concentrations.
- Even at places where this layer is thickest, there are not more than a few molecules of ozone for every million air molecules.
- Nevertheless, they perform a very important function.
- By absorbing the harmful ultraviolet radiations from the sun, the ozone molecules eliminate a big threat to life forms on earth.
- Notably, UV rays can cause skin cancer and other diseases and deformities, in plants and animals.

What is the concern with depletion?

- During experiments in Antarctica in the early 1980s, it was noticed that during September-November, the concentration of ozone fell considerably lower to what was recorded in the 1950s.
- Studies and satellite measurements confirmed the depletion.
- Given its significance, the ozone layer’s depletion was considered as grave a threat to the planet in the 1980s and 1990s as climate change is now.
- By mid-1980s, scientists narrowed down on a class of industrial chemicals like chlorofluorocarbons, or CFCs, as the likely culprits.
- So, over the years, the threat has largely dissipated.
- This is largely because the world has banned the production and consumption of most of the “ozone-depleting substances”.
- However, it will take another 15-45 years for the ozone layer to be fully restored.

What causes the ozone hole?

- It is to be understood that the ‘ozone hole’ is not really a hole.



- It is a region in the stratosphere, directly above Antarctica, where the ozone concentration is measured to become extremely low in certain months.
- Notably, depletion has happened in other regions of the stratosphere as well but the problem is more acute in Antarctica.
- This is due to a set of special meteorological and chemical conditions that arise there in the months of September, October and November.

What is the recent discovery?

- NASA recently reported that the ozone hole, which usually grows to about 20 million sq km in September, was less than half that size in this year (2019).
- This is the smallest it has ever been during this time of the year, after being discovered.

What are the possible reasons for this?

- There was an extraordinarily high temperature in the stratosphere this year.
- The NASA said that the less depletion could have happened because of this rather than the ongoing human efforts to contain the ozone depletion.
- Temperatures in some areas of the stratosphere, which is usually over 100 degrees below zero, were 30° to 40°C higher than normal in September.
- At least two such extraordinary warming of the stratosphere has been observed in the past.
- On both such occasions, the ozone hole was also measured to be smaller than usual.
- However, the reason why this warming happens is uncertain.
- The warming has no observed connection with the warming in lower atmosphere that leads to climate change.
- Given all, it should be noted that this gain is temporary, and persistent human efforts are essential.

How effective are global efforts in this regard?

- The depletion in the ozone layer is consistently being contained with global efforts to ban the use of harmful chemicals that destroy ozone.
- CFCs and similar chemicals were being widely used in industrial applications like refrigeration, air-conditioning, foams, fire-extinguishers and solvents.
- The 1989 global agreement (Montreal Protocol) organised international consensus on phased elimination of these chemicals.
- In subsequent years, the agreement has ensured the phase-out of over 90% of these chemicals.
- Two years ago, an amendment to the Montreal Protocol cleared the way for a faster elimination of another set of similar compounds.
- These are hydrofluorocarbons, or HFCs, which were being used as temporary replacements for CFCs.
- With these, the impact on the ozone layer has been encouraging.
- In September 2019, the UN Environment Programme said that the ozone layer was on track to be completely restored within “our lifetime” itself.
- It said that the ozone layer over some areas in the northern hemisphere could be completely restored to their pre-1980 levels by as early as the 2030s.
- It said that the Antarctica ozone hole could be completely healed by the 2060s.

- Parts of the ozone layer had recovered at the rate of 1 to 3% every 10 years since 2000.

12.5 New Zealand's Zero-Carbon Act

Why in news?

New Zealand's Parliament recently passed The Zero-Carbon Act, which will commit New Zealand to zero carbon emissions by 2050 or sooner.

What is the Act on?

- The Act comes as part of the country's attempts to meet its Paris climate accord commitments.
- The Act is not a separate legislation but is an amendment to the existing Climate Change Responses Act, 2002.
- The Act is titled Climate Change Response (Zero Carbon) Amendment Act.
- It provides a framework by which New Zealand will be able to develop and implement climate change policies in line with the Paris Agreement.
- The objective is to limit the temperature increase to 1.5 degree Celsius.
- According to the New Zealand government, this is the first legislation in the world to make a legally binding commitment to living within 1.5°C of global warming.

What are the key targets?

- The Bill presents the country's plan on how to act over the next 30 years, to safeguard its future and that of its children.
- The key aims of the Act include:
 - i. reducing all greenhouse gases (except methane) to net zero by 2050
 - ii. reducing emissions of biogenic methane (produced from biological sources) up to 10% below 2017 levels by 2030 and to 24-47% below 2017 levels by 2050
 - iii. establishing an independent Climate Change Commission
 - iv. establishing a system of emissions budget
- The Act proposes separate targets for biogenic methane.
- [Biogenic methane is emitted by livestock, waste treatment and wetlands.]
- This is because methane is a short-lived climate pollutant with an atmospheric lifetime of around 12 years.
- While its lifetime in the atmosphere is much shorter than carbon dioxide (CO₂), it is much more efficient at trapping radiation.
- In other words, it is a more potent greenhouse gas than CO₂.

How suitable is New Zealand to this?

- The country is well positioned to undertake steps to mitigate climate change.
- Its capacity to generate electricity from renewable resources is at 80%.
- It is working towards phasing out the use of offshore oil and gas.
- Also, the government is working towards investing over \$14.5 billion to better its public transport system.
- Steps are also being made to promote walking and cycling infrastructure.



- The government anticipates that GDP and household incomes in New Zealand will continue to rise.
- In turn, this would minimise the cost of adapting to climate change for the citizens.

12.6 Bushfires in Australia

Why in news?

Australia is witnessing widespread bushfires, and the country has declared a state of emergency for the state of New South Wales (NSW) along with a catastrophic fire warning.

What does the warning mean?

- When catastrophic fire warnings are put in place, residents are supposed to leave bushfire prone areas immediately.
- Across NSW, over 600 schools were shut.
- The recent bushfires have, notably, left at least three people dead.

Are bushfires new to Australia?

- Bushfires are a routine occurrence in the country.
- The Australian climate is hot, dry and prone to droughts.
- So, at any time of the year, some parts of Australia are prone to bushfires.
- Such fires happen when grass, branches, trees start burning in an uncontrolled manner.
- For New South Wales and Queensland, the peak risks for bushfires is during spring and early summer, which is around November-December.

What is distinct about the present bushfire season?

- The above pattern now seems to be breaking down, and bushfires are happening outside the regular places and times.
- This bushfire season is believed to be the worst and has started even before the beginning of the Southern Hemisphere summer.
- Furthermore, these bushfires are also affecting the quality of air in the areas surrounding them.
- The readings for PM 2.5 (223) and PM 10 (399) fell in the “hazardous” category (readings above 200) as per the Australian scale.
- On a particular day, 75 fires were ablaze; out of these, 9 were considered at the emergency level and 37 were not contained.
- The day saw over 300 new bushfires as well.

What causes bushfires?

- Bushfires, while are generally slow moving, have a higher heat output and can smoulder for days.
- Bushfires are thus considered to be an intrinsic part of Australia’s environment.
- Its natural ecosystem has been shaped by and has evolved with historic and recent fires.
- It is difficult to tame and control naturally occurring bushfires; but their consequences can be minimised if certain measures are taken.
- There are other factors that create a favourable environment for bushfires.



- These include factors such as fuel load (leaf litter, barks, small branches), fuel moisture, wind speeds, high temperature, oxygen, low humidity and ignition source.
- They can be caused by both human activity and lightning, which is responsible for about half of ignitions in Australia.
- The remaining fires have human origins that are classified as deliberate or accidental.
- In fact, police in Australia are investigating if the fire in Sydney's upper north shore was deliberately lit by suspected arsonists (who commit the criminal act of deliberately setting fire to property.).

Is there a climate change link to this?

- There are speculations about the links between climate change and bushfires.
- While the bushfires are not directly triggered by climate change, climate change is increasing the risk of more frequent and intense bushfires.
- This time, fires are burning in places and at intensities never experienced before.
- E.g. rainforests in northern NSW, tropical Queensland, and the formerly wet old-growth forests in Tasmania
- The drought being faced is more intense than the Millennium Drought, with higher levels of evaporation due to higher temperatures.
- This has dried out the bush and made it easier for fires to start, easier for them to spread quickly

12.7 Revamping Haryana's Johads - Model Ponds

Why in news?

- Haryana's Johads (community-owned water conservation structures) are all set for a revamp by the State government.
- The Pond and Waste Management Authority, governed by Haryana's Pond and Waste Management Authority Act is working on rehabilitation.

What is the Pond and Waste Management Authority Act?

- The objective of the Act is to establish an authority in the State -
 - i. for development, protection, rejuvenation, conservation, construction and management of pond
 - ii. for utilisation of pond water and treatment thereof
 - iii. to manage and utilise treated effluent of sewage effluent treatment plants for irrigation, thereby reducing over-exploitation of ground water
- The Authority's primary functions are:
 - i. to conduct survey and study the ponds, their boundaries and protected areas
 - ii. to analyze pond water for ascertaining its suitability for irrigation and other uses
 - iii. to take steps for regulation, control, protection, cleaning, beautification, conservation, reclamation, regeneration, restoration and construction of ponds
 - iv. to make environmental impact assessment of the ponds
 - v. to develop infrastructure (pumping machinery, channels and pipe systems for pond water utilization, sewage effluent treatment plants)



What is the plan?

- Haryana's Johads are community-owned rainwater storage wetland mainly used for harnessing water resources.
- The state government has come out with a plan of rehabilitating over 16,400 ponds in rural areas across the state.
- The objective is to analyze pond water to ascertain its suitability for irrigation and other uses.
- The basic idea is to analyse water resources, other than canal water, for irrigation purposes.
- It is done in coordination with the departments of animal husbandry and dairying, irrigation and urban local bodies.
- The Authority has started surveying the ponds.
- **Model ponds** - The Authority shall be developing 18 model ponds on a pilot project basis.
- Based on this, a future action plan will be prepared for renovation of other ponds.
- The main focus of the model ponds will be -
 - i. beautification
 - ii. demarcation of area for fishing and animals
 - iii. conservation of water to be used for irrigation purposes
- To begin with, each district of the state shall have a model pond each.

How does the rehabilitation process work?

- In April 2019, Haryana's Pond and Waste Management Authority asked urban local bodies to identify water bodies under their jurisdiction.
- [This was based on the National Green Tribunal's orders.]
- They were also asked to assign ponds a unique identification number.
- The government has created a Pond Data Management Software.
- It has started generating a 21-digit unique identification number for each such water body.
- A detailed database was prepared collecting details including name and type of water body (ponds, lakes, reservoirs), rural or urban, water conservation schemes.
- Name of basin and sub-basin in which it is located and whether it falls in a drought-prone or flood-prone area are also recorded.
- If done, it is said that Haryana would become the first state in the country to have a model village pond in each district.

13. INTERNAL SECURITY

13.1 Broadening Boundaries of Terrorism

What is the issue?

- Acts of violence are widespread and increasingly being carried out in the name of religion, even by commoners and children.



- In this backdrop, here is a look at the prevalence of the ideas of religion and terrorism in the present age.

What is the worrying trend?

- Violence in the name of God is certainly not new.
- Terrorism existed, but it was a faraway, unpredictable event.
- For most people, terrorism was nothing but another piece of news.
- But, the worrying trend is that the wings of terrorism is spreading beyond terrorist groups and trained militias.
- Commoners and children are getting to be part of the mob now.
- Attacks are carried out across religions in the name of God.

What role is terrorism playing?

- Terrorism may never succeed in overthrowing the government, or in controlling large territories.
- However, it is becoming clear that terrorists have managed to implant the idea of violence and hatred in everyone.
- By all means, embracing the idea of violence and hatred does not make a person a terrorist or perpetrator of violence.
- Nevertheless, continuous expressions of hostility and contempt would have created something worse than terrorism itself.
- For instance, fear would no longer be a rare sentiment with a cyclical life, but a real and permanent feeling.
- In every corner of the world, “us” versus “them” has become the main discourse.
- It is no more the argument in a particular segment of the society.
- It has instead become the discourse at the grass roots as well.

How is the idea of religion transforming?

- The idea of religion as a peaceful path has been shattered.
- The idea that humanism will promote equality and union also lies in ruins.
- In all, the world is at a crossroads, where broader human values are being replaced by exclusive group values.
- Justice, equality, fairness, and peace are only being applied to groups.
- It is only about “us”, and never concerns “others”.

What is the paradoxical reality?

- Modern technology has been accelerating rapidly since the turn of the millennium.
- Consequently, automation and scientific discoveries are diluting the rigid boundaries among people.
- However, despite the possibility for closeness, people are not made citizens of the world.
- Instead, people tend to fortify themselves in a group that distinguishes itself from another.
- Freedom and democracy have certainly empowered individuals.
- However, on the other hand, in the name of freedom and democracy, radical ideas are being talked about.

- These radicals do not recognise that their ideas are anti-democratic and do not value freedom.
- In many cases, their attempts to force these ideas have ended in disturbance and assault.

13.2 Extension of Ban on NDFB - Bodoland Dispute

Why in news?

The central government has extended the ban on the Assam-based insurgent group National Democratic Front of Bodoland (NDFB) by 5 more years.

Why is the ban?

- The ban was for its involvement in a series of violent activities including killings and extortion, and for joining hands with anti-India forces.
- The Home Ministry has declared the NDFB along with all its groups, factions, and front organisations as an “unlawful association.”
- It is enforced under the provisions of the Unlawful Activities (Prevention) Act, 1967.

Who are the Bodos?

- Bodos are the single largest tribal community in Assam.
- They make up over 5-6% of the state’s population.
- They have controlled large parts of Assam in the past.
- The four districts in Assam - Kokrajhar, Baksa, Udalguri and Chirang - are home to several ethnic groups.
- These constitute the Bodo Territorial Area District (BTAD).

What is the Bodoland dispute?

- The Bodos have had a long history of separatist demands, marked by armed struggle.
- In 1966-67, the demand for a separate state called Bodoland came up.
- It was raised under the banner of the Plains Tribals Council of Assam (PTCA), a political outfit.
- In 1987, the All Bodo Students Union (ABSU) renewed the demand.
- The unrest was a fallout of the Assam Movement (1979-85).
- The Movement’s culmination with the [Assam Accord](#) addressed the demands of protection and safeguards for the “Assamese people”.
- This led the Bodos to launch a movement to protect their own identity.
- In the 2012 Bodo-Muslim riots, hundreds were killed and almost 5 lakh were displaced.
- In December 2014, separatists killed more than 30 people in Kokrajhar and Sonitpur.

Who are the NDFB?

- Alongside political movements, armed groups have also sought to create a separate Bodo state.
- In 1986, the prominent group Bodo Security Force (BdSF) was formed by Ranjan Daimary.
- The BdSF subsequently renamed itself as the National Democratic Front of Bodoland (NDFB).
- NDFB is known to be involved in attacks, killings, and extortions.



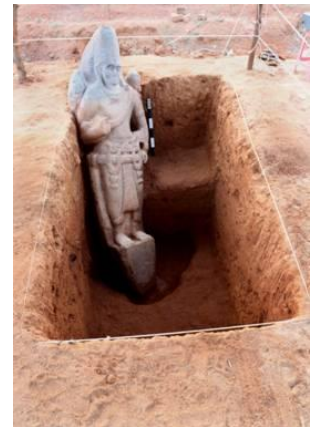
- In the 1990s, Indian security forces launched extensive operations against the group, causing the latter to flee to bordering Bhutan.
- In Bhutan, the group faced stiff counter-insurgency operations by the Indian Army and the Royal Bhutan Army in the early 2000s.
- NDFB had broken into many factions that are involved in many violent activities.
- These include the 2008 bomb attacks in Assam, killing of 66 Adivasis in Assam in 2014.
- Amidst these, peace talks are on with the government.

PRELIM BITS

14. HISTORY AND ART & CULTURE

Gottiprolu

- It is a new site excavated by Archaeological Survey of India in the State of Andhra Pradesh.
- The remains of a huge settlement surrounded by a massive brick enclosure has been discovered.
- One life size Vishnu sculpture and a wide variety of pottery of the early centuries of current era have been excavated.
- The site of Gottiprolu lies on the right bank of a distributary of river Swarnamukhi in South Andhra Pradesh. It lies close to Tirupati and Nellore.
- Further explorations revealed various forms of antiquarian remains extending from Tamil Nadu and culturally linked with each other.



Lingdum Monastery

- President has recently visited Lingdum Monastery in Ranka, Sikkim.
- It is a Buddhist pilgrimage center following the Zurmang Kagyu sect of the ancient school of Tibetan Buddhism.
- The monastery symbolizes the Tibetan Buddhist architecture with a gigantic statue of Lord Buddha is enshrined at the end of the hall.

Gamosa

- It is a symbol of Assamese culture. It is equivalent to towel by meaning 'Ga' means 'body' and 'mosa' means 'wipe' (literally meaning a towel but multi-functional in practice).
- It is mostly woven out of white threads with colourful and intricate inlays in red.
- There are different varieties woven for religious and auspicious occasions.
- It is also known as 'Bihuwaan' and it is an essential part of Bihu festival of Assam.
- It is valued as a gift for visitors, used as a scarf, anti-dust mask, wrapped around the head as a turban.
- It has been assigned a new function for conservation of rare freshwater turtles.





- Conservationists are using this cultural icon to carry forward the message of turtle conservation, with *gamosas* woven with turtle images.

SurangaBawadi

- SurangaBawadi which is situated in Bijapur Karnataka has entered the World Monuments Watch List under “Ancient Water System of the Deccan Plateau” of the World Monument Funds.
- It is an integral part of the ancient Karez System of supplying water through subterranean tunnels.
- It was built by Adil Shah-I of Adilshahi dynasty of Bijapur in the 16th century to supply water to Vijayapura in Karnataka.

Karez System

- Karez is a water harnessing technology in which groundwater is brought to the surface by a tunnel.
- In this system, no mechanical pump or lift is used, Gravity alone brings the water from the underground source.
- The technology originated in Persia/Iran and was widely used during the medieval period.

World Monument Watch

- The World Monuments Watch is a biennial selection program of ‘at-risk cultural heritage sites’ that combine great historical significance with contemporary social impact.
- It is a nomination-based program uses cultural heritage conservation to empower communities and improve human well-being.
- It was launched in 1995 on the 30th anniversary of World Monuments Fund to identify imperilled cultural heritage sites and provide direct financial and technical support for their preservation.
- The program also seeks to improve the resilience of communities, enhance social inclusion, and build new capacities in the heritage conservation field and beyond.
- Anyone can nominate a site to the World Monuments Watch, including private individuals and representatives of civil society organizations, community groups, government agencies, educational institutions, or other entities.

World Monument Fund

- World Monuments Fund is a private nonprofit organization.
- It was founded in 1965 by individuals concerned about the accelerating destruction of important artistic treasures throughout the world.

Bazeera

- The archaeological experts from Pakistan and Italy have discovered a 3000-year-old city, named Bazeera in joint excavation in northwest Pakistan.
- According to the findings in 326 B.C Alexander the Great, defeated the opponents in battle at odigram constructed the walled city named Bazeera.
- The experts also found traces of life in the city even before Alexander's period.
- Before Alexander, the followers of Indo-Greek, budhmat, Hindu Shahi and Muslims lived in the city.
- The discovery also find traces of Hindu temples, coins, stupa, pots and weapons of that period.

15. GEOGRAPHY

Madden-Julian Oscillation

- The Madden–Julian Oscillation (MJO), is a moving band of rain clouds that travels around the globe spanning 12,000–20,000 km across the tropical oceans.

- Global warming has been expanding the size of the warm pool which affects its normal interaction period.
- In its journey, it interacts with surface waters of the Indo-Pacific Ocean, the largest pool of warm water in the globe and the lifecycle of the MJO gets affected.
- The MJO clouds on average are spending only 15 days, instead of 19, over the Indian Ocean and increased by 5 days over the west Pacific.
- It is this change in the residence time of MJO clouds that has altered the weather patterns across the globe.
- When the MJO appears in the Indian Ocean during the monsoon months of June-September, it can increase rains over India.
- This year, India was poised to receive below normal monsoon rainfall in April but ended up with excessive rain partly due to the MJO.
- The change in the MJO could drift warmer surface water towards the Bay of Bengal and increase cyclones.
- The changes in MJO behaviour have increased the rainfall over northern Australia, west Pacific, Amazon basin, southwest Africa and southeast Asia (Indonesia, Philippines and Papua New Guinea).
- At the same time these changes have brought a decline in rainfall over central Pacific, along the west and east coast of U.S. (e.g., California), north India, east Africa and the Yangtze basin in China.
- Scientists have asserted that the frequent California fires, droughts in Africa and East Asian floods and cyclones in the Bay of Bengal may be linked to these changes in global weather.
- This MJO phenomenon haven't been as extensively studied as say the El Nino.

Geochemical Baseline Atlas of India

- Geochemical Baseline Atlas of India is developed by CSIR-National Geophysical Research Institute (NGRI).
- The atlas consists of 45 maps of metals, oxides and elements present in top and bottom soils across India.
- These maps help in finding out future contamination caused by industries or other bodies, which cause pollution on the earth surface.
- For instance, tanneries release chromium, by going through the map of chromium, policymakers will get to know regions with a high concentration of it.
- Earlier, there was no way to prove if polluters denied causing damage to the environment.

Mekedatu Reservoir

- The Mekedatu Reservoir project envisages building a balancing reservoir in Cauvery River with storage of 67 thousand million cubic feet (tmc ft).
- It would also supply drinking water to Bengaluru and Ramanagaram districts, besides generating power.
- The proposal received the Karnataka Cabinet's approval in February 2017 and the feasibility report was submitted to the Central Water Commission (CWC).
- CWC has allowed Karnataka to go ahead with the project with the prerequisite that it should get No-Objection Certificate (NOC) from the Cauvery Water Management Authority (CWMA).
- After obtaining NOC from CWMA, the proposal will be considered by Advisory Committee of the Ministry of Jal Shakti, whose concurrence is mandatory for a project on any inter-State river.
- Karnataka has been contending for the project to help store excess water in Monsoon surplus year.
- Tamil Nadu has been opposing the project that it would effectively prevent the flow in the Cauvery, the lifeline for agriculture in delta districts, besides being a major drinking water source for several districts.

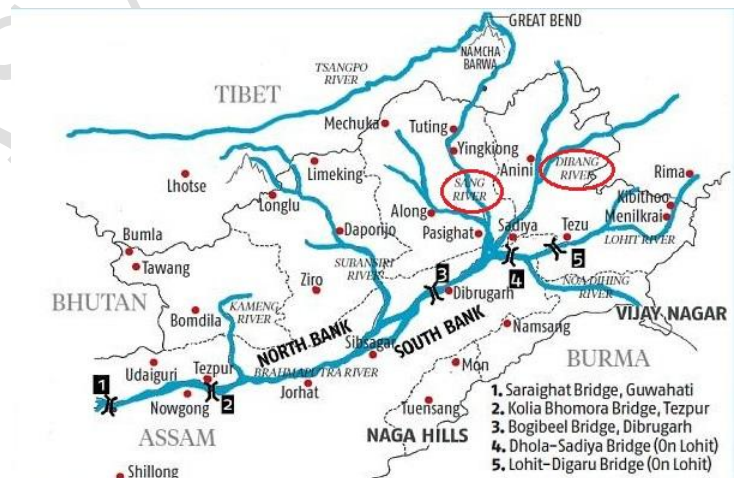
Danakil Depression

- The Danakil Depression in Ethiopia is at the northern end of the Great Rift Valley and separated by live volcanoes from the Red Sea.
- It is one of the world's hottest places, as well as one of its lowest, at 100 metres below sea level.
- It was formed by the evaporation of an inland water body and no stream flow out from its extreme environment.
- It is covered with more than 10 lakh tonnes of salt.
- Microbes are known to survive almost anywhere. Scientists now believe that this place is an exception.
- A new study says that active and naturally occurring life cannot be sustained and even it is daunting for extremophile microbes which can adapt to environmental conditions that are too extreme for everything else.
- It identifies two barriers that makes adaptation highly difficult such as
 - i. Magnesium-dominated brines that cause cells to break down and
 - ii. Environment having simultaneously very low pH and high salt.



Feni River

- River Feni is a transboundary river, originated in the State of Tripura and passes through sabroom town and finally enters South Eastern border of Bangladesh.
- Muhuri is the tributary of Feni, which originates from Tripura and combines with Feni near to the region of Bay of Bengal in Bangladesh.
- Muhuri is also called as Little Feni.
- Union Cabinet has recently given ex-post facto approval for the MoU between India and Bangladesh regarding Feni River.
- It allows for withdrawal of 1.82 cusec of water from Feni River by India for drinking water supply scheme for Sabroom town Tripura.



Sisseri River bridge

- The bridge was recently inaugurated at Lower Dibang Valley in Arunachal Pradesh.
- It will provide connectivity between Dibang Valley and Siang.
- It also provides connectivity to Tinsukia via Dhola-Sadia bridge.
- It was constructed by Project Brahmanak of Border Roads Organisation (BRO).
- It will be a part of Trans Arunachal Highway.
- Other Projects of BRO - Vartak, Arunank and Udayak for the development of road connectivity in the State.

Pushkaram Festival

- Pushkaram festival is a festival of rivers that pertains to the 12 important rivers in India, it occurs once in 12 years for each river.
- In 2018, the Pushkaram festival was celebrated on the banks of the Tamiraparani in Tirunelveli district, Tamil Nadu.
- The Assam government is celebrating Brahmaputra Pushkaram- a 12-day mega river festival.

- Earlier, the Brahmaputra Pushkaram festival was held in 2007.
- It will be the second biggest river festival ever to be celebrated in the state of Assam after Namami Brahmaputra (State festival that celebrates the beauty of the Brahmaputra river)

16. POLITY

AFSPA in J&K

- The Union Cabinet Secretariat has notified regarding Armed Forces Special Powers Act (AFSPA) in J&K and Ladakh.
- According to it, Ministry of Home Affairs (MHA) will be the authority on deciding the imposition of AFSPA in the Union Territories of Jammu and Kashmir (J&K) and Ladakh.
- MHA departments will also be responsible for matters including counter terrorism within J&K.
- And coordination with the ministry of defence in regard to manning and managing the Line of Control between India and Pakistan but excluding those with which the ministry of external affairs is concerned.

Office of Profit

- President has rejected a petition demanding disqualification of 11 Delhi MLAs belonging to AamAadmi Party for allegedly holding office of profit.
- In March 2017, a petition was filed before the President seeking disqualification of the lawmakers claiming that they were enjoying office of profit by being co-chairpersons of district disaster management authorities in 11 districts of Delhi.
- The issue was referred to Election Commission which gave an opinion that holding the office of co-chairperson of a district disaster management authority does not attract disqualification as MLA since there is no remuneration by way of salary and allowances.
- As per law, the President accepts the opinion of the Election Commission in cases of office of profit.
- 'Office of profit' (OoP) is not clearly defined in the Constitution.
- But deriving from the past judicial pronouncements, five tests have been laid down to check if an office is an OoP or not.
- They are:
 - i. whether the government makes the appointment
 - ii. whether the government has the right to remove or dismiss the holder
 - iii. whether the government pays remuneration
 - iv. what the functions of the holder are
 - v. does the government exercise any control over the performance of these functions
- In all, the word 'profit' has always been treated equivalent to or a substitute for the term 'pecuniary gain' (financial gain).

What the law says

Article 102 (1)(a) says a person shall be disqualified from being a member of either House of Parliament if he holds any office of profit, among other grounds

Article 103 says if a question arises whether a member has incurred such disqualification, it will be referred to the President's decision. The President shall obtain the Election Commission's opinion and act accordingly

Article 191(1) contains a similar provision for MLAs and MLCs in the States. Legislators in Delhi are covered by corresponding provisions in the Government of National Capital Territory Act, 1991





Elections in Local Self-Government

- The Tamil Nadu Cabinet has recently decided to revert to Indirect Elections to the posts of Mayors of Corporations and chairpersons of municipalities and town panchayats.
- 74th Constitutional Amendment Act created 3 offices in Urban Local Bodies Viz
 1. Town Panchayat for a transitional area between a rural and urban area
 2. Municipalities for a small urban area
 3. Municipal Corporations for a large urban area
- The members to these offices are elected directly by the people.
- The state legislature may provide for the manner of election of the chairpersons of these three offices.
- It is also having powers to provide representation of the members – MLAs/MPs, persons having special knowledge in Municipal administration, Chairperson of the committees.
- The State Election Commission is vested with the power to conduct elections to these offices.

Doctrine of Essentiality

- The doctrine of “essentiality” was invented by a seven-judge Bench of the Supreme Court in the ‘Shirur Mutt’ case in 1954.
- The court held that the term “religion” will cover all rituals and practices “integral” to a religion and took upon itself the responsibility of determining the essential and non-essential practices of a religion.
- Five-judge Constitution Bench judgment in ‘Dr M Ismail Faruqui and Ors vs Union Of India and Ors’ (October 24, 1994), ruled that “A mosque is not an essential part of the practice of the religion of Islam and namaz (prayer) by Muslims can be offered anywhere, even in open.”
- In some cases Supreme Court have relied on religious texts to determine essentiality, in others on the empirical behavior of followers, and in yet others, based on whether the practice existed at the time the religion originated.

Jallianwala Bagh Trust Bill

- Jallianwala Bagh National Memorial (Amendment) Bill, 2019 has been passed by the Parliament recently.
- The Jallianwala Bagh National Memorial trust was first set up by then Congress President Motilal Nehru in 1920.
- In accordance with the amendment, the trust will no longer have the congress president as a member.
- The leader of the opposition in the Lok Sabha or the leader of the single largest opposition party in case there is no Leader of opposition will be a member.
- It also amends that a nominated trustee may be terminated before the expiry of the period of five years by the Central Government.

National Institute of Design (Amendment) Bill

- Parliament has passed the National Institute of Design (Amendment) Bill, 2019.
- It declares the National Institute of Design, Ahmedabad as an institution of national importance.
- It also seeks to declare 4 National Institutes of Design as institutions of national importance.
- They are located at Amaravati in Andhra Pradesh, Bhopal in Madhya Pradesh, Jorhat in Assam and Kurukshetra in Haryana.
- Currently, these institutes are registered as Societies under the Societies Registration Act, 1860 and do not have the power to grant degrees or diplomas.
- On being declared institutions of national importance, the four institutes will be granted the power to grant degrees and diplomas.

17. SOCIAL ISSUES

Maternal Mortality Ratio

- According to the recent special bulletin on MMR released by the Registrar General of India, MMR of India has declined by 8 points in one year.
- MMR has declined from 130 per lakh live births in 2014-16 to 122 per lakh live births in 2015-17 (6.2% decline).
- Under the National Health Policy 2017, India has set the ambitious target of MMR of 100 lakh live births by 2020.
- Currently, 11 states in India have achieved the target - Kerala, Maharashtra, Tamil Nadu, Andhra Pradesh, Jharkhand, Telangana, Gujarat, Uttarakhand, West Bengal, Karnataka and Haryana.
- Four states namely Assam, Uttar Pradesh, Madhya Pradesh and Rajasthan are behind in containing MMR.
- India is on the track of achieving the Sustainable Development Goal (SDG) target for reducing MMR by 2025, five years ahead of timeline of 2030.
- Initiatives such as LaQshya, POSHAN Abhiyan and SUMAN (SurakshitMatritvaAashwasan Initiative) are launched for reducing MMR.

Child Protection Services

- Orphan children in the country fall within the category of “Children in need of care and protection” (CNCP) as described in the Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act).
- The primary responsibility of execution of the Act lies with the States/UTs. However, the Ministry of Women and Child Development is implementing a centrally sponsored Child Protection Services (CPS) Scheme (erstwhile Integrated Child Protection Scheme) for supporting the children in difficult circumstances.
- The primary responsibility of implementation of the scheme lies with the State Governments/UT Administrations.
- Under the provisions of the CPS, Central Government is providing financial assistance to the States/UTs for undertaking a situational analysis of children in difficult circumstances.
- Under the scheme institutional care to CNCP (including orphan) and Children in Conflict with Law (CCL) is provided in Child Care Institutions (CCIs) as a rehabilitative measure.
- The scheme provides for education (including bridge education) with the help of Education Department specially with the help of Sarva Shiksha Abhiyan and National Open School.

18. GOVERNMENT INITIATIVES

Bamboo Technology Park

- Ministry of Development of North Eastern Region and the North Eastern Council (NEC) have announced setting up of Bamboo Technology Park in Jammu & Kashmir and Ladakh.
- The parks will be in Jammu, Srinagar and Leh and it is consonance with the National Bamboo Mission (NBM).
- The Cane and Bamboo Technology Centre (CBTC) under NEC will implement the project.
- The model for bamboo cultivation, harvesting and utilisation currently existing in the North Eastern Region shall be replicated in the 2 UTs.
- A Bamboo Industrial Park has already been approved to be set up in the Dima Hasao district of Assam.

Programme for International Student Assessment (PISA)

- Union HRD Minister has recently reviewed the preparations of Kendriya Vidyalaya Sangathan and Navodaya Vidyalaya Samiti in New Delhi for its participation in PISA, 2021.



- The PISA is a competency-based test to assess the quality of education systems across the world.
- It assesses the learning levels of 15-year-old students in reading, mathematics, science, collaborative problem solving and money literacy.
- The Organisation for Economic Cooperation and Development (OECD) conducts PISA **every three years**.
- It does not test a student's memory and curriculum-based knowledge.
- PISA's science test, , measures three competencies —
 1. Ability to explain scientific phenomena
 2. Scientific interpretation of data and evidence
 3. Ability to design and evaluate scientific query.
- Similarly, PISA defines reading as an individual's capacity to understand, use and reflect on written information in a range of situations.
- **India's Participation** - The country participated in 2009 test with 16,000 students from 400 schools in Himachal Pradesh and Tamil Nadu.
- India was placed 72nd among the 74 participating countries.
- Indian government decided not to participate in 2012 and 2015 cycles.
- The decision was revisited in 2016 and HRD ministry approved the decision to participate in 2021 cycle.
- The students of Kendriya Vidyalaya Sangathan, Navodaya Vidyalaya Samiti and Union Territory of Chandigarh will represent India in this examination.

Aadi Mahotsav

- It is a 15-day National Tribal Festival organised in New Delhi.
- The theme of the festival is a celebration of the spirit of tribal culture, craft, cuisine and commerce.
- It is organised by Tribal Cooperative Marketing Development Federation of India Limited (TRIFED).
- The objective of TRIFED is socio-economic development of tribal people by undertaking marketing development of the tribal products.
- It serves the interest of Tribal people by ensuring better remunerative price for their Minor Forest Produce and tribal art and handicraft products.

Vigyan Samagam

- It is India's first-ever global Mega-Science exhibition.
- It is inaugurated in the Science city of Kolkata.
- Department of Atomic Energy, Department of Science and Technology, National Council of Science Museums (NCSM), Ministry of Culture have joined hands to organise this event.
- It will highlight India's contribution to the world's S&T and innovation, and researches in the areas of high energy physics, nuclear physics, astronomy and astrophysics, nuclear energy etc.
- It will showcase discovery of the Higgs particle, gravitational waves from merger of neutron stars and black holes, crucial questions related to the origin of the Universe and its evolution through its various stages.

Shaala Darpan Portal

- It is an E-Governance school automation and management system for Navodaya Vidyalaya Samiti (NVS) in New Delhi.
- Navodaya Vidyalaya is the country's largest residential schooling system that provides education to the talented children predominantly from the rural areas without regard to their family's socio-economic conditions.

- This portal has been developed for information sharing and knowledge dissemination for employees and students across schools and offices of NVS.
- It is the first major initiative to enable automation of all activities of the NV's through a single umbrella - 636 schools, 8 Regional Offices, 8 NLIs and Head Quarter.
- There is also another portal with the same name for Kendriya Vidyalayas.
- **Kendriya Vidyalaya Shaala Darpan** is an e-Governance platform for all KV's in the country.
- It aims to improve quality of learning, efficiency of school administration, governance of schools & service delivery to key stakeholders namely, students, parents, teachers, community and schools.

Other Related Portals

- **ShaalaSarathi** is a State-NGO-CSR Portal to aid the collaboration among the stakeholders in sharing innovative practices in various schools.
- **Shaala Siddhi** is a comprehensive school evaluation system focused on well-defined quality-based parameters that facilitates Schools to make professional judgments for improvement.

Shilpostav- 2019

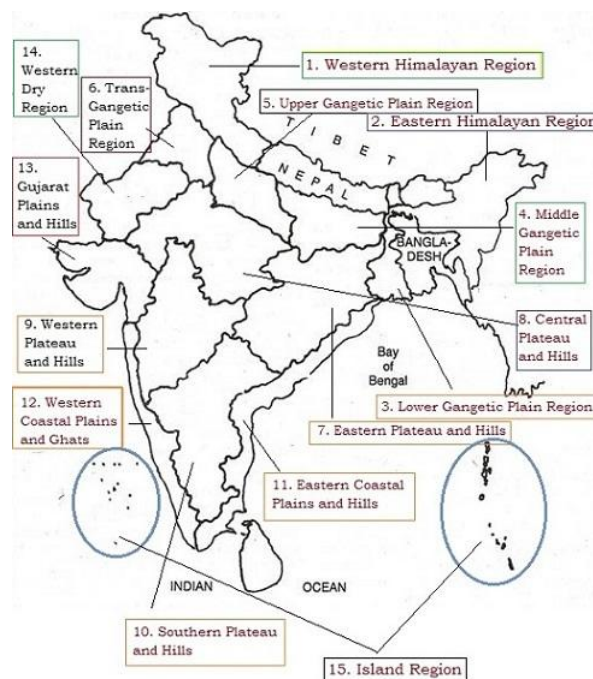
- It is the annual fair of artisans belonging to the weaker sections of the society from across the country.
- It is organized by the Ministry of Social Justice and Empowerment.
- Artisans are assisted by the apex corporations of the ministry such as
 1. National Backward Classes Finance & Development Corporation,
 2. National Scheduled Caste Finance & Development Corporation,
 3. National Handicapped Finance & Development Corporation and
 4. National SafaiKaramchhari Finance & Development Corporation

International Conference on Agricultural Statistics

- The 8th International Conference on Agricultural Statistics (ICAS) will be held in New Delhi.
- It will be organized by the Ministry of Agriculture & Farmers Welfare.
- Ministry of Statistics and Programme Implementation, FAO, Asian Development Bank, World Bank, Bill & Melinda Gates Foundation are partners of this conference.
- The theme of the conference is "Statistics for Transformation of Agriculture to Achieve the Sustainable Development Goals (SDGs)".
- ICAS is a series of conferences that started in 1998 based on overarching need for agricultural data worldwide.
- It is conducted every three years based on overarching need for agricultural data worldwide.
- The last conference was held in Rome in 2016.

Bharatiya Poshan Krishi Kosh

- Ministry of Women and Child Development is going to launch Bharatiya Poshan Krishi Kosh.
- It is a repository of diverse crops across 128 agro-climatic zones in India.
- Its aim is to provide better nutritional outcomes and to fight malnutrition.
- Harvard Chan School of Public Health and the Bill and



Melinda Gates Foundation will be a part of this initiative.

- They will document and evaluate promising regional dietary practices and the messaging around them and develop a food atlas on regional agro-food systems.
- It will select around 12 high focus states, which are representative of the geographical, social, economic, cultural and structural diversities of India.

National Institute of Sowa Rigpa

- The Union Cabinet has recently approved the establishment of the National Institute for Sowa-Rigpa in Leh.
- It will be an autonomous organisation under the Ministry of AYUSH.
- Sowa-Rigpa is a Traditional Medical system of the Himalayan belt in India.
- It has been popularly practiced in Sikkim, Arunachal Pradesh, Darjeeling (West Bengal), Himachal Pradesh, Union Territory of Ladakh and now all over India.
- The aim of this institute is to bring a valid and useful synergy between Traditional Wisdom of Sowa-Rigpa and modern science, tools and technology.

Patent Prosecution Highway Programme

- It is a pilot programme between Indian Patent Office (IPO) and Japan Patent Office (JPO).
- Under the programme, Indian Patent Office may receive patent applications in certain specified technical fields only while JPO may receive applications in all fields of technology.
- The technical fields include Electrical, Electronics, Computer Science, Information Technology, Physics, Civil, Mechanical, Textiles, Automobiles and Metallurgy.
- It will be operative for 3 years.
- IPO works under the Controller General of Patents, Designs & Trademarks (CGPDTM), Ministry of Commerce and Industry with patent offices of various other interest countries or regions.

NuGen Mobility Summit-2019

- NuGen Mobility Summit-2019 is the first in a series of the conference organized by International Center of Automotive Technology (ICAT), Manesar in Haryana.
- It is the largest automotive technology event covering relevant topics of alternate fuel systems and E-Mobility.
- In the three-day conference, Automotive technology experts from 15 countries including India will be presenting more than 120 technical research papers.
- ICAT, Manesar is a division of NATRIP Implementation Society (NATIS) under the Ministry of Heavy Industries and Public Enterprises.

Nationwide Artificial Insemination Programme

- The NAIP is a campaign mode genetic upgradation program covering all breeds of bovines to enhance the milk production using low cost breeding technology for improving genetic merit of milch animals with high quality seed.
- The Programme will be implemented in 600 identified districts having less than 50% A.I coverage from 15th September 2019 to 15th March 2020 over a period of 6 months covering around 120 lakh breedable female bovine population, covering 100 villages and 200 animals per village.
- Monitoring of the project and follow-up of all the animals covered under the programme shall be continued until calves are born.
- All the animals covered under the programme shall be identified using UID and their data shall be uploaded on INAPH database.
- All inseminated animals shall be given Animal health Card (Nakul Swasthya Patra).

- After AI, the animal shall be followed up and all the events shall be recorded on the database till the birth of the calf.

Coalition for Disaster Resilient Infrastructure

- Indian Prime Minister Narendra Modi first proposed CDRI during the 2016 Asian Ministerial Conference on Disaster Risk Reduction.
- The CDRI was later conceptualized in the International Workshop on Disaster Resilient Infrastructure (IWDR) in 2018-19.
- The coalition envisages 3 tiered structures viz Governing Council (GC), Executive Committee (EC) and a Secretariat of the Society. The objectives of CDRI are as follows:
- The CDRI aims to serve as a platform where knowledge is generated and exchanged on different aspects of disaster and climate resilience of infrastructure.
- The work of CDRI is to focus on relevant thematic areas including the four major themes of
 - a) Risk Assessment for key infrastructure sectors at multiple scales.
 - b) Standards, regulation and mechanisms for enforcement.
 - c) Role of finance in promoting disaster resilience.
 - d) Predictable mechanisms for supporting disaster recovery in key infrastructure sectors.
- The charter of CDRI has been shared with 38 countries including G 20 and non-G 20 nations.
- So far nine countries viz. Afghanistan, Australia, Bhutan, Fiji, Italy, Mauritius, Mongolia, Sri Lanka and United Kingdom have conveyed their willingness to join the CDRI in writing.

19. GOVERNMENT SCHEMES

Pradhan Mantri KisanMaan-Dhan Yojana (PM-KMY)

- It is a new central sector scheme.
- Under this Scheme, a minimum fixed pension of Rs.3,000/- is provided to the eligible small and marginal farmers, on attaining the age of 60 years.
- It is a voluntary and contributory pension scheme, with entry age of 18 to 40 years.
- The beneficiary is required to make a monthly contribution of between Rs.55/- to Rs.200/- to the Pension Fund, depending on the age of entry into the Scheme.
- Central Government will contribute equally to the beneficiary's contribution.
- The pension fund is managed by the Life Insurance Corporation of India (LIC).
- The beneficiary may exit from the scheme voluntarily or on failure of contribution or on demise.
- On exit, the beneficiary will receive his/her accumulated share and the Government's contribution will be deposited in the LIC Fund.
- After the subscriber's death, the spouse or heir shall be entitled to receive 50% of the pension as family pension, provided he/she is not already an SMF beneficiary of the Scheme.
- On the death of the subscriber during the period of contribution, the spouse shall have the option of continuing the Scheme by paying regular contribution.
- It aims to cover around 3 crores Small and Marginal Farmers.

JansankhyaSthirthaKosh

- JansankhyaSthirthaKosh (National Population Stabilization Fund) is an autonomous body under Ministry of Health and Family Welfare.



- It implements the Prerna scheme, Santushti Scheme and National Helpline for providing information on family planning.
- **Prerna Scheme** is for delaying marriage, childbirth and spacing.
- It recognizes and awards couples who have broken the stereotype of early marriage, early childbirth and repeated childbirth.
- In order to become eligible for award under the scheme, the girl should have been married after 19 years of age and given birth to the first child after at least 2 years of marriage.
- The couple will get additional award if birth of the 2nd child takes place after at least 3 years of the birth of 1st child and either parent voluntarily accept permanent method of family planning within one year of the birth of the 2nd child.
- The amount of award is given in the form of National Saving Certificate (NSC).
- It is meant only for BPL families.
- **Santushti Scheme** invites private sector gynaecologists and vasectomy surgeons to conduct sterilization operations in Public Private Partnership mode.
- According to this Scheme, an accredited private Nursing Home/ Hospital can sign a tripartite MOU between the State Health Society as 1st party, accredited private health facility as 2nd party and JSK as the third party.
- Upon signing the MOU, the private hospitals/nursing homes shall be entitled to incentive by JSK whenever it conducts 10 or more Tubectomy/Vasectomy cases in a month.
- The accreditation is done by the district and approved by the State Health Society.

UDAN 4.0

- UDAN/Regional Connectivity Scheme's objective is to facilitate affordable regional air connectivity.
- Airports Authority of India (AAI) is the implementing agency.
- It offers concessions to the airlines to encourage them to fly on regional routes.
- Concession include operating subsidies like levies or charges imposed by the airport operators, excise duty at 2% and VAT at 1% on aviation turbine fuel, parking charges at airports and exempting these operations from the GST net.
- The maximum airfare has been capped at Rs 2500 for a one-hour journey of approximately 500 kilometre on an aircraft or for a 30-minute journey on a helicopter.
- The selected airlines will have to commit 50% of the seats on RCS flights (3-7 operational flights/week) and all seats up to 13 passenger seats on helicopters as RCS seats.
- A Regional Connectivity Fund (RCF) and Viability Gap Funding is set up to subsidize operation and to meet the losses incurred.
- Under **UDAN 4.0**, Ministry of Civil Aviation identified Bilaspur in Chhattisgarh as a priority airport and focus on routes connecting these airports.
- These prescribed routes would be offered for bidding.
- The region is also recognized for its distinct characteristics such as unique rice quality, Doobraj and the contribution of the Kosa silk industry to the handloom sector.

Kalaburagi Airport

- Kalaburagi Airport in Karnataka has been built under the UDAN-Regional Connectivity Scheme.
- The first flight from Kalaburagi Airport to Kempegowda International Airport, Bengaluru took off recently.
- The Airport will act as a gateway for tourist destinations including Buddha Vihar, SharanaBasaveshwara Temple, Khwaja Banda Nawaz Dargah and, Gulbarga Fort.

20. BILATERAL ISSUES

Industrial Security Annex

- The 2+2 dialogue between India and the U.S. was held in Washington, D.C.
- During the dialogue, both countries are expected to sign the Industrial Security Annex (ISA) and review the steps to operationalise the Communications Compatibility and Security Agreement (COMCASA).
- The ISA is part of the General Security of Military Information Agreement (GSOMIA), which India had signed with the U.S. many years ago.
- It will allow the transfer of defence technology
- It is crucial for U.S. companies bidding for big-ticket Indian deals to partner Indian private companies.
- It would be the first time India has entered into such a pact with any country, although the United States has such agreements in place with several countries.
- But the Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA), which is under discussion, is unlikely to be concluded in the upcoming dialogue.

21. INTERNATIONAL ORGANISATIONS

UNESCO Creative City

- The UNESCO Creative Cities Network (UCCN) was launched in 2004 to promote cooperation among cities which recognized creativity as a major factor in their urban development.
- It aims to foster mutual international cooperation with and between member cities committed to investing in creativity as a driver for sustainable urban development, social inclusion and cultural vibrancy.
- The Network recognizes the following creative fields:
 1. Crafts and Folk Arts
 2. Media Arts
 3. Film
 4. Design
 5. Gastronomy
 6. Literature
 7. Music
- The overall situation and activities within the Network are reported in the UCCN Membership Monitoring Reports, each for a 4-year period for a particular city.
- The Network recognizes the concept of creative tourism, defined as a travel associated with creative experience and participation
- The following three Indian cities has been added to UCCN - Varanasi for Music, Jaipur for Crafts and Folk Art and Chennai for Music.
- To become part of the network of 180 cities, where development is believed to be intricately linked to their creative traditions.
- **Recent Developments** - Hyderabad has now been officially designated as a UNESCO Creative City of Gastronomy and Mumbai in Film Category.
- These 2 cities are among 66 cities named by the UNESCO in the list of new Creative Cities which aims at pushing the Sustainable Development Goals through innovative thinking and action.
- Hyderabad is the city of biryanis, kebabs, haleem, kallu, shikampur and chowki dinners.

- Pre-Islamic Kakatiya cuisines (12th century) have interacted in an incredible fashion with the arrival of Turks in 15th century, followed by Mughal influences in the 17th century.

International Solar Alliance Assembly

- Ministry of New and Renewable Energy hosted 2nd assembly of International Solar Alliance at New Delhi.
- The assembly had the participation from member countries, ISA Partners, and other invitees.
- As of now, there are 83 member countries with Eritrea and St. Kittis and Nevis latest countries to join ISA.
- The Assembly is the supreme decision-making body of the ISA.
- It gives directions on various administrative, financial and programme related issues.
- India's Minister for New and Renewable Energy and Power is President of the ISA Assembly and France's Minister of State for the Ecological and Inclusive Transition is the Co-President of the Assembly.

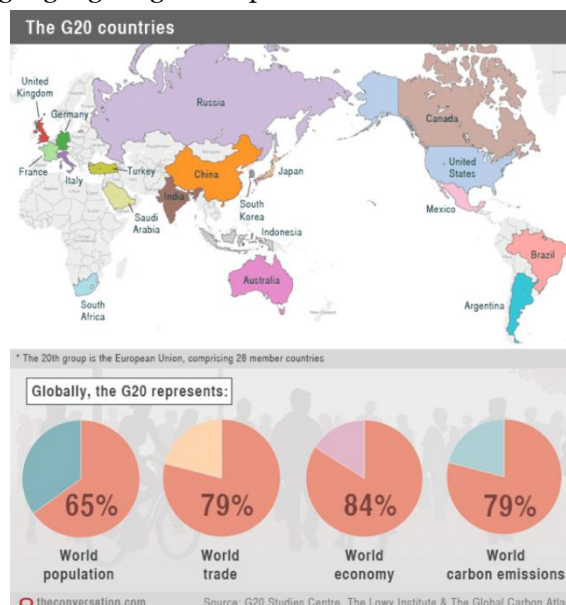
Click [here](#) to know more about ISA.

SACEP

- The 15th meeting of the Governing Council of South Asia Co-operative Environment Programme (SACEP) is was organised in Dhaka, Bangladesh.
- India's Environment Minister will represent the country in this meeting.
- SACEP is an inter-governmental organization, established in 1982 by the governments of South Asia.
- The objective is to promote and support protection, management and enhancement of the environment in the region
- The member countries are Afghanistan , Bangladesh , Bhutan , India , Maldives , Nepal , Pakistan and Sri Lanka.
- It also acts as the Secretariat for the South Asian Seas Programme, which comes under the purview of UNEP's Regional Seas Programme.
- The 14th meeting of the SACEP Governing Council was held in March last year in Colombo.
- India has signed a MoU with SACEP for cooperation on the response to Oil and Chemical Pollution in the South Asian Seas Region.

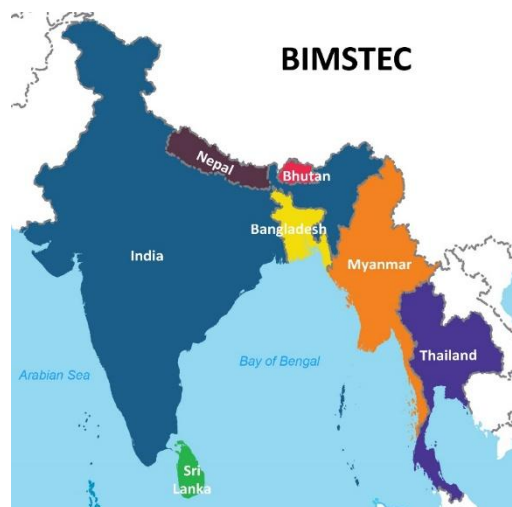
G20 Summit

- The 6th Parliamentary Speakers' Summit of G 20 Countries was recently held in Tokyo, Japan.
- India's Lok Sabha Speaker Om Birla took part in the meeting highlighting the impact of terrorism on society and its significant effects on economy.
- The G20 is an international forum that brings together the world's 20 leading industrialised and emerging economies.
- The group accounts for 85% of world GDP and two-thirds of its population.
- Much of the important business takes place on the sidelines and in informal meetings.
- The annual G-20 summit for 2019 was recently held in Osaka, Japan.
- The Osaka Declaration of G-20 leaders summed up the key outcomes of the meet.
- The declaration welcomed the **UNSC Resolution 2462**, which calls upon countries to prevent and counter the financing of terrorism, especially in its new forms.



BIMSTEC Ports' Conclave

- Bengal Initiative for Multi Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization of 7 members - Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar and Thailand.
- The first ever BIMSTEC Ports' Conclave was organised at Visakhapatnam in Andhra Pradesh.
- The conclave is expected to explore the possibility of increasing economic cooperation by furthering EXIM trade and coastal shipping.
- It discussed on various investment opportunities, best practices adopted for productivity and safety at Ports.
- Objective of BIMSTEC is to harness trade and accelerated growth with mutual cooperation in different areas of common interest by utilising the regional resources and geographical advantage.



Council of Europe

- It aims to uphold human rights, democracy, and rule of law in Europe and promote European culture.
- HQ - Strasbourg, France.
- It has 47 member states and is distinct from the EU.
- Some of the members in Council of Europe who are outside EU are Russia, Iceland, Switzerland, Turkey, Azerbaijan, Georgia, Japan, Canada, U.S, Mexico, Israel.
- No country has ever joined the EU without first belonging to the Council of Europe.
- Unlike the EU, the Council of Europe cannot make binding laws, but it does have the power to enforce select international agreements reached by European states on various topics.
- The best-known body of the Council of Europe is the European Court of Human Rights, which enforces the European Convention on Human Rights.
- The Commissioner for Human Rights is an independent institution within the Council of Europe, mandated to promote awareness of and respect for human rights in the member states.
- Turkey is also a member

India and SCO

- The 5th meeting of Shanghai Cooperation Organisation (SCO)'s Heads of Ministries and Department of Science and Technology was held in Russia.
- In this meeting, members have agreed to the India's proposal for hosting the Heads of Ministries (Prime Ministers) meeting in 2020.
- India will also host the SCO Forum of Young Scientists and Innovators in 2020.

UNWTO

- Suman Billa, the former director and secretary of Kerala Tourism, will join the United Nations World Tourism Organisation (UNWTO) as the director, technical cooperation and silk road development.
- UNWTO is responsible for the promotion of responsible, sustainable and universally accessible tourism.
- It is headquartered in Madrid, Spain.
- The UNWTO Executive Council represents the Organization's governing body.
- The executive council take all necessary measures in consultation with the Secretary-General, for implementation of its own decisions and recommendations of the Assembly.

- The Council meets at least twice a year.
- The council consists of 30 Full Members elected by the assembly.

APRACA

- The Asia-Pacific Rural and Agricultural Credit Association (APRACA) aims to promote the efficiency and effectiveness of rural finance and access to sustainable financial services for small farmers in its member countries.
- Currently, APRACA has members in over 23 countries, and it acts to promote the exchange of information and expertise on rural finance between them.
- It also provides rural finance-related training, consultancy, and research publications to assist them.
- They were established to provide financial services to small farmers and rural people in general.
- The two other regional agricultural credit associations are
 1. NENARACA (Near East - North Africa Agricultural Credit Association).
 2. AFRACA (African Rural and Agricultural Credit Association)
- All the three credit associations were established, with the help of FAO, following the 1975 World Conference on Agricultural Credit.
- Recently APRACA co-hosted 6th World Congress on Rural and Agricultural Finance along with NABARD in New Delhi.

World Gold Council

- The World Gold Council is the market development organization for the gold industry.
- Headquartered in London, United Kingdom, they have offices in India, China, Singapore and the United States.
- It works across all parts of the industry, from gold mining to investment, and their aim is to stimulate and sustain demand for gold.
- They frequently publish research that demonstrates gold's strength as a preserver of wealth both for investors and countries.
- They have also launched various products such as SPDR GLD and gold accumulation plans in India and China.
- WGC also helps to support its members to mine in a responsible way and developed the Conflict Free Gold Standard.
- WGC recently released Gold Demand Trends Report, which highlights that Gold is the third most consistently bought investment, 46% of global retail investors have chosen gold products, behind savings accounts (78%) and life insurance (54%).

22. INTERNATIONAL ISSUES AND EVENTS

Hong Kong Convention for Ship Recycling

- India has recently acceded to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.
- The convention is aimed at ensuring that recycling ships, do not pose any unnecessary risk to human health and safety or to the environment.
- It was adopted by International Maritime Organisation (IMO) in 2009.
- It was developed with input from IMO, International Labour Organization and the Parties to the Basel Convention.



- It addresses all concerns about working and environmental conditions in ship recycling facilities,
- It regulates the design, construction, operation and preparation of ships so as to facilitate safe and environmentally sound recycling.
- It checks for scrapping ships that may contain environmentally hazardous substances such as asbestos, heavy metals, hydrocarbons, ozone depleting substances and others.
- It requires ships to be sent for recycling will be required to carry an inventory of hazardous materials.
- Ship recycling yards will be required to provide a Ship Recycling Plan and parties will be required to take effective measures to ensure that ship recycling facilities under their jurisdiction comply with the Convention.

Budapest Convention

- It is the sole legally binding multilateral treaty that coordinates **cybercrime investigations** between nation-states and criminalises certain cybercrime conduct.
- The convention is led by Council of Europe, which is distinct from European Union.
- Both members and non-members of Council of Europe are parties to the convention.
- Totally 64 nations are party to this convention and 3 countries have signed but yet to ratify the convention.
- India, Russia and China are not members to this convention.
- The 2nd additional protocol to the convention is under preparation and the member countries recently met at Strasbourg.
- Russia recently passed a resolution in United Nation General Assembly (UNGA), to create a **new treaty** that can coordinate and share data to prevent cybercrime.
- India voted in favour of Russia's resolution.

11.2 ECONOMY

Financial Stability and Development Council

- The 21st Meeting of the Financial Stability and Development Council (FSDC) was held recently.
- FSDC was established in 2010 with Union Finance Minister as its Chairman.
- Its members include
 - i. The heads of financial sector regulators (RBI, SEBI, PFRDA, and IRDA)
 - ii. Finance Secretary, Department of Economic Affairs
 - iii. Secretary, Department of Financial Services
 - iv. Chief Economic Adviser
 - v. Chairman of the Insolvency and Bankruptcy Board
- FSDC has two core functions:
 - i. to perform as an apex level forum to strengthen and institutionalize the mechanism for maintaining financial stability
 - ii. to enhance inter-regulatory coordination and promote financial sector development in the country
- It focusses on financial literacy and financial inclusion.
- It monitors macro-prudential supervision of the economy and also assess the functioning of the large financial conglomerates.
- FSDC sub-committee is chaired by the Governor of RBI.

15th Finance Commission

- Article 280 of the Constitution states that the President shall constitute a Finance Commission at the expiration of every fifth year or at such earlier time as the President considers necessary.



- Union Cabinet has extended the term of 15th Finance Commission (15th FC) headed by N.K.Singh by one-year to October 30, 2020.
- The term was originally set to end in October 2019.
- It means the Commission will recommend its award to six fiscal years, instead of the usual five.
- The 15th FC can give recommendations for six years through two reports (2020-21 to 2025-26) and 16th FC will consider devolution for 2025-26 to 2029-30.
- The proposed change in coverage of the period will help medium-term resource planning for the state governments and the central government.
- **Finance Commission** is a quasi-judicial body and its recommendations are only of advisory nature and hence, not binding on the government.
- It is constituted to make recommendations to the president about the distribution of the net proceeds of taxes between the Union and States and also the allocation of the same amongst the States themselves.
- It is also under the ambit of the Finance Commission to define the financial relations between the Union and the States.
- They also deal with devolution of non-plan revenue resources.
- According to the recommendation of 14th Finance Commission, the share of states in the net proceeds of the shareable Central taxes should be 42%.

Credit Rating Agency

- A credit rating agency is a company that assigns credit ratings, which rate a debtor's ability to pay back debt by making timely principal and interest payments and the likelihood of default.
- An agency may rate the creditworthiness of issuers of debt obligations, of debt instruments, and in some cases, of the servicers of the underlying debt, but not of individual consumers.
- The debt instruments rated by CRAs include government bonds, corporate bonds, municipal bonds, preferred stock, and collateralized securities, such as mortgage-backed securities and collateralized debt obligations.
- The issuers of the obligations or securities may be companies, special purpose entities, state or local governments, non-profit organizations, or sovereign nations.
- A credit rating affects the interest rate that a security pays out, with higher ratings leading to lower interest rates.
- Individual consumers are rated for creditworthiness not by credit rating agencies but by consumer reporting agencies or credit reference agencies, which issue credit scores.
- As of now, there are six credit rating agencies registered under Securities Exchange Board of India (SEBI) namely,
 1. CRISIL,
 2. ICRA,
 3. CARE,
 4. SMERA,
 5. Fitch India
 6. Brickwork Ratings.
- Moody Investors Service is not a registered credit rating under SEBI.

New Rules for Financial Firms

- The government has recently issued framework for bringing 'systemically important financial service providers' under the purview of the Insolvency and Bankruptcy Code (IBC).
- Accordingly, the ministry of Corporate Affairs has notified the IBC rules, 2019 to provide a generic framework for insolvency and liquidation proceedings of systemically important FSPs other than banks.



- Section 227 of the IBC Code enables the Central government to notify such rules for the purpose of insolvency and liquidation proceedings.
- Such rules will be notified in consultation with the financial sector regulators, financial service providers (FSPs) or categories of FSPs.

Credit Guarantee Fund

- National Credit Guarantee Trustee Company Ltd is a common trustee company to manage and operate various credit guarantee trust funds.
- It has been set up by the Department of Financial Services, Ministry of Finance.
- It operates Fund of Funds for Start-ups (FFS) under Start up India Programme.
- Under Startup India initiative, all applications can be submitted to the Department for Promotion of Industry and Internal Trade.
- Collateral-free loans have been made available to MSMEs under the Credit Guarantee Scheme in Aspirational Districts.

Household Consumer Expenditure Survey

- The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation carried out an all-India survey on household consumption expenditure.
- The survey is usually conducted in quinquennial intervals and the last survey was conducted in 2011-2012.
- It generates estimates of household Monthly Per Capita Consumer Expenditure (MPCE) and the distribution of households and persons over the MPCE classes.
- It is designed to collect information regarding expenditure on consumption of goods and services (food and non-food) consumed by households.
- The data are also used for rebasing GDP and other macro-economic indicators.
- The government has decided not to release the survey results due to data quality issues.

Chit Funds (Amendment) Bill, 2019

- Lok Sabha has recently passed Chit Funds (Amendment) Bill, 2019 recently.
- It seeks to amend the Chit Funds Act, 1982, which regulates chit funds and prohibits a fund from being created without the prior sanction of a State Government.
- Under the legislation, the prescribed ceiling of aggregate chit fund amount for individuals has been raised from one lakh rupees to three lakh rupees and in case of firms, the limit has been raised from 6 lakh to 18 lakh rupees.
- It also increases the maximum commission of a foreman from five per cent to seven per cent and also allows the foreman a right to lien against the credit balance from subscribers.

ICEDASH and ATITHI

- These two initiatives were launched by the Ministry of Finance.
- It is for improved monitoring and pace of Customs clearance of imported goods.
- It facilitates arriving international passengers by electronic filing of Customs baggage and currency declarations.
- It is developed by Central Board of Indirect taxes and Customs in collaboration with National Informatics Centre (NIC).
- With ICEDASH, Indian Customs helps the businesses compare clearance times across ports and plan their logistics accordingly.
- With ATITHI, it uses mobile app for international travelers to file the Customs declaration in advance.



Global Exhibition on Services

- The 5th Global Exhibition on Services (GES) was organised by the Ministry of Commerce & Industry in New Delhi.
- It is organised in partnership with Services Export Promotion Council and the Confederation of Indian Industry.
- The objective is to give focused attention to the following 12 identified Champion Services Sectors for promoting their development and realizing their potential.
 - i. Accounting & Finance
 - ii. Media & Entertainment
 - iii. IT & ITES
 - iv. Health & Wellness
 - v. Infra & Construction
 - vi. Legal
 - vii. Transport & Logistics
 - viii. Banking, Financial & Insurance
 - ix. Communications
 - x. Tourism & Hospitality
 - xi. Education
 - xii. Environment
- The 'India Services' brand was created by the Ministry of Commerce and Industry to represent the services sector of India.

Housing Projects

- The Union Cabinet has recently approved the establishment of a 'Special Window' fund for housing projects.
- The fund will provide priority debt financing for the completion of stalled housing projects that are in the Affordable and Middle-Income Housing sector.
- For the purposes of the fund, the government shall act as the Sponsor and the total commitment to be infused by the Government would be upto INR 10,000 crore.
- It will be set up as a Category-II AIF (Alternate Investment Fund) debt fund registered with SEBI and would be professionally run.
- It would provide relief to developers that require funding to complete a set of unfinished projects and consequently ensure delivery of homes to the homebuyers.

23. ENVIRONMENT

New Rules on Ethanol Production

- The Central Government has declared that no separate environmental clearance is required to produce additional ethanol from B-heavy molasses as it does not contribute to the pollution load.
 - **Ethanol Production** - Ethanol is a secondary biofuel which is produced through processing of biomass.
 - In the National Policy on Biofuels 2018, Government has allowed B grade molasses, sugarcane juice and damaged food grains as feedstocks to increase availability of ethanol.
 - **"A" molasses** is intermediate by-product resulting from initial processing of sugarcane juice at the sugar factory.



- **"B" molasses/"second" molasses** is an intermediate product, obtained from boiling together "seed-sugar" & A molasses to extract an additional 12% of raw sugar.
- **"C" molasses/"final"** is the end product of the sugar extraction process. It still contains considerable amounts of sucrose but there is no economically viable method to date to extract this.
- While in many nations, ethanol is directly produced from sugarcane juice, in India ethanol has been produced from C-heavy molasses.
- It is because of a general perception that diverting a food crop for producing fuel would lead to a shortage of sugar in the country.
- With various incentives provided by the Government of India, sugar mills are expected to undertake production of ethanol from B-heavy Molasses and other by-products/products.
- The recent environment clearance clause is to facilitate ethanol production from B-heavy molasses/Sugar cane juice/ Sugar syrup/ Sugar.
- Such projects will be considered under the provisions of 7 (ii) (a) of EIA Notification, 2006 by the concerned Expert Appraisal Committee for grant of environmental clearance.

UNFCCC COP

- The 25th Conference of Parties (COP 25) of The United Nations Convention on Climate Change (UNFCCC) was planned to be hosted by Chile.
- But due to domestic social unrest faced by the Chile government, it announced its withdrawal from hosting the event.
- The Spain government has offered to host the event, but Chile's environment minister will remain the President of COP 25.
- The decision to change venues ultimately lay with the UN COP bureau, a 12-member panel of climate diplomats drawn from across the world and chaired by Head of the government of previously hosted nation.
- Currently the bureau is headed by Polish President as COP 24 was held in Katowice, Poland.
- The UN Climate Headquarters is in Bonn, Germany.

Wasteland Atlas

- The 5th edition wasteland atlas of India is released by the Department of Land Resources, Ministry of Rural Development.
- The previous 4 editions were released in 2000, 2005, 2010 & 2011.
- National Remote Sensing Centre (NRSC), Department of Space collaborate with the ministry.
- The new wastelands mapping exercise is carried out by NRSC using the Indian Remote Sensing Satellite data.
- The changes in wastelands between 2008-09 and 2015-16 have been presented in the Atlas.
- It provides district and state wise distribution of different categories of wastelands area including mapping of about 12.08 Mha hitherto unmapped area of Jammu & Kashmir.
- **Data highlights** – The spatial extent of wasteland is 55.76Mha (16.96 % of geographical area of the Country) for the year 2015-16 as compared to 56.60 Mha in the year 2008-09.
- During this period 1.45 Mha of wastelands are converted into non wastelands categories.
- A reduction in wasteland area was observed in the categories of land with dense scrub, waterlogged and marshy land, sandy areas, degraded pastures / grazing land and gullied and / or ravinous land.
- Positive changes were observed in the following States - Rajasthan, Bihar, Uttar Pradesh, Andhra Pradesh, Mizoram, Madhya Pradesh, Jammu & Kashmir and West Bengal.
- Majority of wastelands have been changed into categories of croplands.



Green Climate Fund

- The GCF was set up in 2010 under the UNFCCC's financial mechanism to channel funding from developed countries to developing countries to allow them to mitigate climate change and also adapt to disruptions arising from a changing climate.
- The Green Climate Fund will support projects, programmes, policies and other activities in developing country Parties using thematic funding windows.
- It is intended to be the centrepiece of efforts to raise Climate Finance of \$100 billion a year by 2020.
- The Fund is governed and supervised by a Board that will have full responsibility for funding decisions and that receives the guidance of the Conference of Parties (COP).
- The Fund is accountable to, and functions under the guidance of, the COP.
- Recently India has kicked-off a project to boost climate resilience in three coastal states in partnership with the United Nations Development Programme (UNDP), funded by the Green Climate Fund.
- The six-year project will build climate-resilient livelihoods for 1.7 million people in Andhra Pradesh, Maharashtra and Odisha.

Winter-Grade Diesel

- Motorists in high-altitude sectors like Ladakh, Kargil, Kaza and Keylong face the problem of freezing of diesel in their vehicles when winter temperatures drop to as low as -30°C.
- Indian Oil has come up with an innovative solution to this problem by introducing a special winter-grade diesel with a low pour-point of -33 degree Celsius, which does not lose its fluidity function even in extreme winter conditions.
- Winter diesel fuel is also known as winter diesel, alpine diesel, or winterized diesel (AE).
- It refers to diesel fuel enhanced to prevent it from gelling in cold weather conditions.
- In general, it is achieved by treatment with additives that change the low temperature characteristics of the fuel.
- Winter-Grade Diesel will smoothen the travel and transportation in high alpine region and will help in overall economic development.

Green Urban Mobility

- India and Germany have launched Indo-German Partnership for Green Urban Mobility to reform bus sector in Tamil Nadu.
- Under this partnership, both the countries will earmark 200 million Euros for the purpose.
- The funding will be for the period of 5 years.
- It will be used to finance several environment friendly projects such as the introduction of electric buses to replace the ones running on diesel for public transport in urban centres.

International Seed Treaty

- International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA), is popularly known as the International Seed Treaty.
- It is a comprehensive international agreement, which aims at guaranteeing food security through the conservation, exchange and sustainable use of the world's plant genetic resources for food and agriculture (PGRFA).
- It also recognizes farmers' rights, subject to national laws to:
 1. The protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
 2. The right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture.

3. The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
- The Treaty establishes the Multilateral System of Access and Benefit-sharing to facilitate plant germplasm exchanges and benefit sharing through Standard Material Transfer Agreement (SMTA).
- The treaty was negotiated by the Food and Agriculture Organization of the United Nations (FAO) Commission on Genetic Resources for Food and Agriculture (CGRFA) and since 2006 has its own Governing Body under the aegis of the FAO.
- The Governing Body is the highest organ of the Treaty and holds biennial meetings.

PPV & FR Act

- Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act is an unique Indian legislation to protect Farmers' Rights and breeder's rights.
- Under this act a farmer is entitled to save, use, sow, resow, exchange, share or sell his farm produce including seed of a variety protected under the PPV&FR Act, 2001 except brand name.
- PPV&FR Act is fully compliant to the International Seed Treaty.
- Under the provisions of PPV&FR Act, 138 farmers/farming communities have been awarded with Plant Genome Saviour Awards.

UN Global Climate Action Awards

- The UN Global Climate Action Awards are led by UN Climate Change's Momentum for Change initiative.
- The initiative is implemented with the support of The Rockefeller Foundation, and operates in partnership with the World Economic Forum.
- It is given under 4 focus areas such as
 - i. Planetary Health,
 - ii. Climate Neutral Now,
 - iii. Women for Results, and
 - iv. Financing for Climate Friendly Investment
- 15 projects across these focus areas will be awarded this year.
- Indian NGO Mahila Housing Sewa Trust will be one of the 15 recipients for empowering women to fight climate change.
- It organized a project that empowered women in low-income households to increase their resilience to impacts of climate change across seven cities in India, and neighbouring countries of Bangladesh and Nepal.
- For example, women were trained to be energy auditors under the project, who encourage households to switch to more energy-efficient products, thus forming a women-led network of green energy and building products.
- Infosys in India will also receive an award for its journey to carbon neutrality.
- It is one of the first companies of its type to commit to carbon neutrality, while investing in local carbon offsetting projects.
- The award will be given at the UN Climate Change Conference (COP25), hosted by the Chilean government in Madrid in Spain.

Swachh - Nirmal Tat Abhiyaan

- Ministry of Environment, Forest and Climate Change (MoEF&CC) is undertaking a mass cleanliness-cum-awareness drive in 50 identified beaches under the "Swachh – Nirmal Tat Abhiyaan."
- The identified beaches are in 10 coastal States/Union Territories (UTs) namely Gujarat, Daman & Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Puducherry, Andhra Pradesh, and Odisha.
- The cleaning drives in all beaches are being undertaken, involving school/college students of Eco-clubs, district administration, institutions, volunteers, local communities and other stakeholders.



- Collected waste will be processed as per extant Waste Management Rules, 2016.
- Environment Education Division of the Ministry and Society of Integrated Coastal Management (SICOM) under the aegis of MoEF&CC will be responsible for the overall coordination for the drive in 50 beaches.

SPECIES IN NEWS

Greater Adjutant Storks

- It is the world's most endangered of the stork species.
- Earlier it was distributed throughout northern and eastern India and many countries of south and south-east Asia, it is currently only in Assam and Bihar and a few other locations in Cambodia.
- It is listed as "Endangered" in IUCN Red list of threatened species.
- It is locally called 'Hargila' in the Brahmaputra Valley in Assam, which harbours more than 80% of the global population of the species.
- It is considered family by women of Dadara and Pacharia villages in Assam's Kamrup district.
- Families observed a unique ceremony of baby shower for the greater adjutant nesting in their neighbourhood.
- They build colonies on tall trees during their breeding season in winter.
- A campaign was launched in Assam to save the birds by Aaranyak, a wildlife conservation organisation in 2009.
- Assam's renowned environmentalist Purnima Devi Barman has won the prestigious Whitley Awards, also known as the Green Oscars, for her efforts in conserving greater adjutant storks in association with Aaranyak.

New Frog Species

- Brown Blotched Bengal Tree Frog under the genus *Polypedates* was recently discovered in the State of West Bengal.
- It is unique since it is not discovered from deep jungles but from residential areas.
- The name is derived from a series of six to nine dark brown blotches that extend laterally from behind the frog's eye to the vent.
- Its body colour is yellowish-brown to greenish-brown.



Cane Turtle

- While turtles are more or less dependent on water, tortoises are completely terrestrial.
- Cane Turtle is an anomaly. It scuttles through the forest and adopts a land-based lifestyle among leaves.
- Although the shape of its legs and webbed feet are reminiscent of its aquatic relatives, it doesn't like water and stays clear of streams.
- When scared, it dives under dry leaves as if it were plunging into a pond or brook.
- They are endemic to the evergreen and semi-evergreen forests of the Western Ghats of Karnataka, Kerala and Tamil Nadu.
- They are omnivorous and feed on fruits, leaves, arthropods, and molluscs.
- Males have a darker pink or scarlet colouring compared to females, besides also being smaller in size.
- The 10-cm-long turtle blended in colour and shape with the dry leaves that clothed the forest floor.
- Rainforests don't undergo a distinct winter season, but the turtle puts its life on hold for six months after the Northeast monsoon recedes.
- Its IUCN Status is Endangered.



Sumatran Rhino

- The Sumatran rhino has become extinct in Malaysia after the last remaining individual died on November 23, 2019, due to natural causes.
- It is the smallest of all rhino species and one of the most endangered land mammals on the planet.
- It is the only Asian Rhino with two horns.
- Its IUCN status is Critically Endangered.
- Earlier, it has occurred in the parts of Bangladesh, Bhutan, Brunei Darussalam, Cambodia, India, Lao PDR, Myanmar, Thailand and Viet Nam.
- Now, it exists only in four isolated regions of rainforests on the Indonesian islands of Sumatra and Borneo.

Malabar Tree Toad

- It is a very rare species of amphibian endemic to the Western Ghats.
- It is an endangered species that spends most of its life on trees, coming to the ground only during the first monsoon showers to mate.
- Its population is shrinking mainly due to habitat loss, climate change and *Batrachochytrium dendrobatidis*, a deadly fungus that has been decimating entire amphibian populations worldwide.
- The Metastring Foundation, a citizen-based conservation non-profit based in Bengaluru, was awarded a grant of Rs 15 lakh for one year for its project on the Malabar Tree Toad.
- It is working to train and equip citizens for mapping the range of an extremely rare species of toad as only sporadic records are available.

New Snake Species

- Researchers have discovered a new species of non-venomous burrowing snake named 'Trachischiumapteii' in Arunachal Pradesh.
- It was found under fallen logs inside a thickly forested area of the Tally Valley Wildlife Sanctuary near the town of Ziro in Arunachal Pradesh.
- *Trachischium* species are commonly called slender snakes.
- They are seldom seen due to the burrowing habits and hence remain poorly studied.
- They are currently known by seven species that are distributed across the Himalayas, and the Indo-Burma and Indo-China regions.
- *Trachischiumapteii* was named so to honour the contribution of Deepak Apte, well-known marine biologist and Director of the Bombay Natural History Society.

24. SCIENCE AND TECHNOLOGY

SPACE

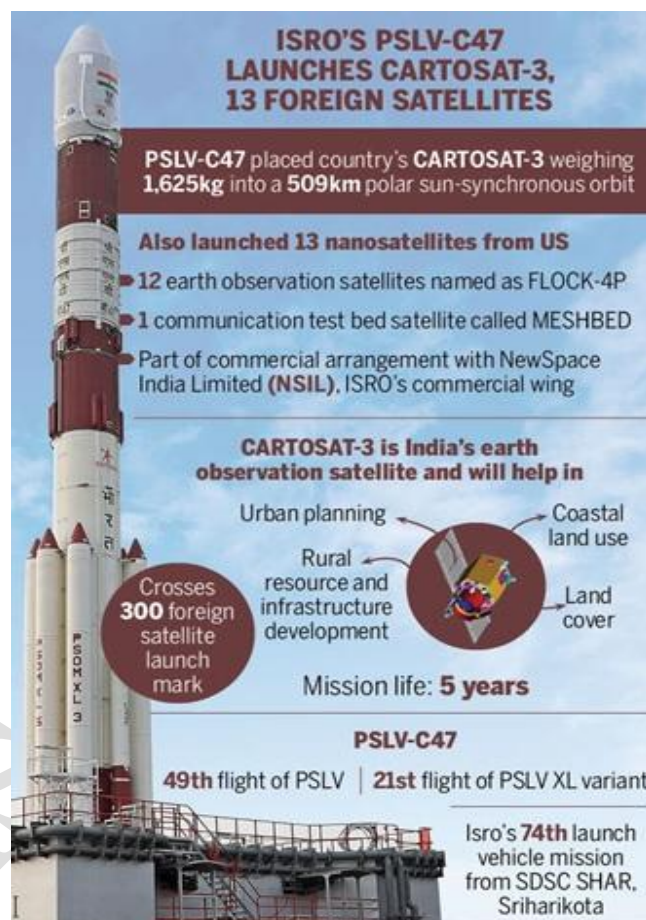
PSLV C-47

- PSLV C-47 has launched CARTOSAT 3 satellite along with 13 nano satellites from the US.
- Cartosat 3 is a third generation earth imaging satellite.
- It is an advancement over the previous cartosat series satellites with higher spatial resolution parameter.
- It is deployed for cartography (map-making applications), infrastructure planning, coastal land use and regulation, road-network monitoring and more importantly, change detection in bringing out geographical and man-made features.

- Among the American satellites aboard is a technical demonstration spacecraft from US-based company Analytical Space Inc, which enables users to gain faster access to satellite data.

Voyager 2

- Voyager 2 is the space probe launched by NASA in 1977 to study the outer planets (Jupiter, Saturn, Uranus and Neptune).
- In 2018, It has passed an incredible milestone in its journey to explore the solar system by **entering interstellar space** (exited the heliosphere).
- Voyager probes (Voyager 1 and 2) are the first spacecraft to date that humans have sent to this boundary, called the heliopause.
- Recent developments - Scientists have decoded the signals sent by Voyager 2 from interstellar space.
- The signals will help scientists paint a clearer picture of cosmic shoreline, where the heliosphere ends, and interstellar space begins.
- The findings also confirmed that the plasma inside the heliosphere is significantly less dense and less cold than the plasma in local interstellar space.
- Another surprising revelation was the magnetic field in the region just beyond the heliopause is parallel to the magnetic field inside the heliosphere.



Heliosphere, Heliopause and Interstellar Space

- The sun creates heliosphere by sending a constant flow of particles and a magnetic field out into space at over 670,000 miles per hour. This stream is called the 'solar wind.'
- Heliopause marks the end of a region created by our sun that is called the heliosphere.
- It is the boundary between our Solar System and the interstellar medium.
- It is the place where the sun's constant flow of material and magnetic field stop affecting its surroundings.
- Interstellar Space is the part of space that exists between stars with cold particles around it.
- Inside the heliosphere, the solar particles are hot but less concentrated. Outside of the bubble, they are very much colder but more concentrated.
- Once an object arrives in interstellar space, there would be an increase of "cold" particles around it.

NASA Artemis mission

- NASA's ongoing Artemis program aims to send astronauts to the Moon by 2024 with the ultimate goal to land humans on Mars.
- The astronauts will be first sent to the Orion spacecraft using the new Space Launch System (SLS) rocket.
- The spacecraft will take the crew to the lunar orbit and will return them to Earth as well.
- The Orion spacecraft will be docked at the Gateway, from where the astronauts will take expeditions to the surface of the Moon in the human landing system.
- For the mission, NASA announced it will also be accepting proposals from private space corporations to use their technologies for the exploration program.

- Boeing has submitted a proposal to NASA about its integrated Human Lander System (HLS) that will minimise mission complexity with its ‘Fewest Steps to the Moon’ approach.

Lunar Exosphere

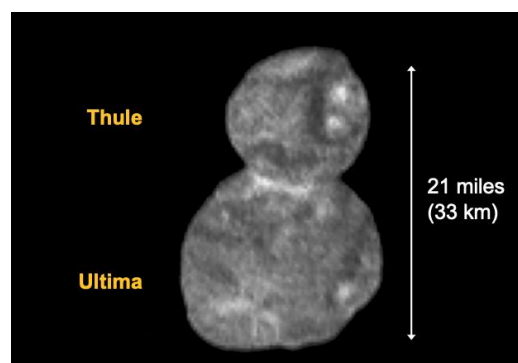
- The thin gaseous layer encompassing the Moon is the ‘Lunar exosphere’, due to the gas atoms present in it very rarely collide with each other, thus making up a very tenuous structure.
- Chandrayaan-2 currently orbiting the Moon has detected Argon-40 from an altitude of about 100 km in the lunar exosphere.
- It has been able to do that with the help of its Chandra’s Atmospheric Composition Explorer-2 (CHACE-2) payload.
- Argon-40 also known as ^{40}Ar is an isotope of the noble gas Argon.
- Argon is third most abundant gas in the Earth’s Atmosphere.
- According to ISRO, Argon-40 originates from the radioactive disintegration of Potassium-40.

BRUIE

- Buyant Rover for Under-Ice Exploration (BRUIE) is a robot developed by NASA for underwater exploration in extra-terrestrial, icy waters.
- It will search for life in ocean worlds beyond Earth.
- It could be used to explore Jupiter’s moon Europa or Saturn’s moon Enceladus.
- As these moons are believed to have liquid water oceans beneath thick crusts of ice, they may be the most promising locations in our solar system to search for evidence of extra-terrestrial life.
- It will be rolling into Antarctica soon to perform driving upside down under sea ice, since they are the closest Earth analog to the seas of an icy moon which makes them an ideal testing ground for it.
- It uses buoyancy to remain anchored against the ice and is impervious to most currents.
- NASA is already constructing the Europa Clipper orbiter, scheduled for launch in 2025 to study Jupiter’s moon Europa, laying the groundwork for a future mission that could search for life beneath the ice.

Arrokoth

- Ultima Thule, the farthest cosmic body ever visited by a spacecraft, has been renamed Arrokoth, or “sky” in the Native American language.
- Arrokoth is icy rock, which orbits in the dark and frigid Kuiper Belt about a billion miles beyond Pluto.
- Arrokoth is an example of a “cold classical object” which has remained undisturbed since the solar system formed some 4.5 billion years ago.
- It was surveyed by the NASA spaceship New Horizons in January 2019, with images showing it consisted of two spheres stuck together in the shape of a snowman.
- The new official name, which was chosen by the New Horizons team and ratified by the International Astronomical Union.



DEFENCE

Dhanush Regiment

- It is an indigenously developed gun and upgraded version of the Swedish Bofors gun procured by India.
- It is a 155 mm ammunition system with a range of 36 km.

- It is compatible with all North Atlantic Treaty Organisation (NATO) 155mm ammunition systems.
- It is fitted with an inertial navigation system having GPS based gun recording, an automated gun sighting system equipped with camera, thermal imaging, and laser range finder.
- The Indian Army, will have the first regiment in place by March 2020 and will get all 114 guns by 2022.
- Last year, the Army inducted its first modern artillery guns system which include M-777 Ultra-Light Howitzers (ULH) from the U.S. and K9 Vajra-T self-propelled artillery guns from South Korea.

Military Exercises

- **Dustlik-2019** – It is the first ever India-Uzbekistan joint military exercise.
- It will be organised in Tashkent and focus on Counter terrorism.
- **SCOJtEx-2019** – India's NDRF is hosting the Shanghai Cooperation Organization(SCO) Joint Exercise on Urban Earthquake Search and Rescue.
- It is to rehearse the disaster response mechanism, share knowledge, experience and technology for mutual coordination.
- **Samudra Shakti** - It is a bilateral naval exercise between India and Indonesia.
- It is being held in Visakhapatnam.
- INS Kamorta, an Anti-Submarine Warfare Corvette participates in the exercise from Indian Side.
- The joint exercises include manoeuvres, Surface Warfare exercises, Air Defence exercises, Weapon firing drills, Helicopter Operations and Boarding Operations.
- Ex - Roar of the Sea –It is conducted between the Indian Navy and Qatari Emiri Naval Forces.
- It would strengthen cooperation and enhance interoperability between the two navies.
- This Bilateral Maritime Exercise between the two navies would strengthen the robust defence co-operation between the two countries.
- **MILAN 2020** - It is a biennial naval exercise held under the command Indian Navy.
- The Last (10th) edition was held in 2018 and the next (2020) is going to be held in Vishakhapatnam.
- In its forthcoming edition, 41 countries have been invited for the participation.
- USA and Russia have been invited while Pakistan and China are not.
- The areas of cooperation include Capacity Building, Marine Domain Awareness, Training, Hydrography, Technical Assistance, Operational Exercise etc.
- **Exercise HIM VIJAY**–It is a routine military exercise conducted to validate operational capabilities of our combat formations.
- It is to test mobility, communication and coordination of such huge body of fast-moving troops in difficult terrain.
- Three Battle Groups, , each comprising around 4000 soldiers, are participating which will include troop mobilisation, mountain assault and air assault.
- Air force and Army helicopters will be transferring troops and equipment at the terrain of upto 15,000 ft.
- This year, it was taken place in Arunachal Pradesh.
- **Ex-SURYA KIRAN**–It is a Joint military exercise between India and Nepal will be conducted in Nepal.
- It is an annual event which is conducted alternatively in Nepal and India.
- The aim of this exercise is to conduct a Battalion level combined training between Indian Army and Nepal Army to increase interoperability in jungle warfare and counter terrorist operations in mountainous terrain, humanitarian assistance and disaster relief, medical and environmental conservation including aviation aspects.

- **Ex- Tiger Triumph** - It is the maiden India US joint Tri services Humanitarian Assistance and Disaster Relief (HADR) Exercise.
- Indian Naval ships Jalashwa, Airavat **and** Sandhayak, would be participating in the exercise.
- The US would be represented by US Navy Ship Germantown.
- The Exercise is aimed at developing interoperability for conducting HADR operations.

HEALTH

Intensified Mission Indradhanush

- Mission Indradhanush was launched in 2014 to achieve full immunisation coverage for all children and pregnant women at a rapid pace.
- Intensified Mission Indradhanush (IMI) was launched from Vadnagar in 2017 and its second version (2.0) 2.0 is going to be launched from Dec 2, 2019.
- Through IMI, Government aims to reach each and every child upto 2 years of age and all those pregnant women who have been left uncovered under the routine immunisation programme/Universal Immunisation Programme (UIP).
- It aims to achieve targets of full immunization coverage in 272 districts in 27 States.
- It shall be implemented in the block level (652 blocks) in Uttar Pradesh and Bihar.
- It will focus on urban, underserved population and tribal areas.
- It consists of 4 rounds of immunization that will be conducted in the selected districts and urban cities between Dec 2019 - March 2020.
- The UIP basket has vaccines for ten diseases i.e
 1. BCG for **TB**, OPV for **poliomyelitis**,
 2. monovalent measles vaccine for **measles**,
 3. Rota Virus vaccine for **Diarrhoea**,
 4. JEV for **Japanese Encephalitis**&
 5. Pentavalent Vaccine for DPT (**diphtheria, pertussis** i.e whooping cough & **tetanus**) and
 6. Vaccine for **Hepatitis B & Pneumonia** due to Hib.
 7. Measles-rubella vaccine (MR) is also added now to the UIP

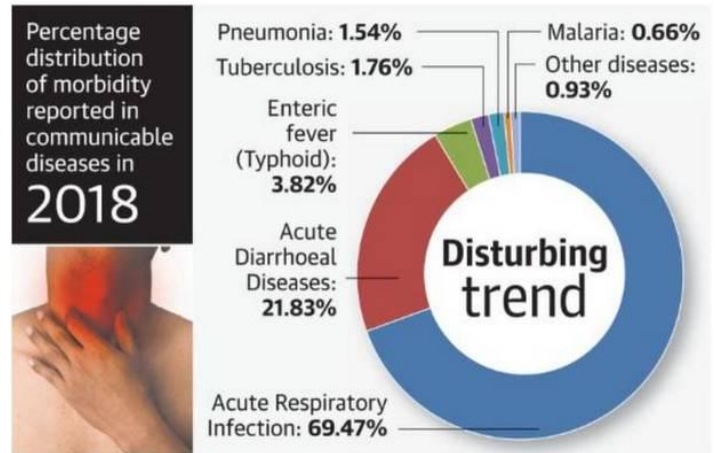
National Health Profile

- National Health Profile (NHP) 2019 has been released by the Central Bureau of Health Intelligence.
- It covers demographic, socio-economic, health status and health finance indicators, human resources in the health sector and health infrastructure.
- It is also an important source of information on various communicable and non-communicable diseases that are not covered under any other major programmes.
- **Key Findings** - India has registered an improved sex ratio from 933 in 2001 to 943 in 2011.
- In rural areas the sex ratio has increased from 946 to 949 and in urban areas from 900 to 929.
- Kerala has recorded the highest sex ratio in respect of total population (1,084), rural population (1,078) and urban (1,091).
- The lowest sex ratio in rural areas has been recorded in Chandigarh (690).
- India also shows a decline in birth and death rates.
- Non-communicable diseases dominating over communicable in the total disease burden of the country.
- The estimated birth rate reduced from 25.8 in 2000 to 20.4 in 2016 while the death rate declined from 8.5 to 6.4 per 1,000 population over the same period.

- The total fertility rate (average number of children that will be born to a woman during her lifetime) in 12 States has fallen below two children per woman and 9 States have reached replacement levels of 2.1 and above.
- Delhi, Tamil Nadu and West Bengal have the lowest fertility rate among other States.

Alzheimer's Disease

- China has approved the first home-grown drug “Oligomannate (GV-971)” for the treatment of "mild to moderate Alzheimer's disease (AD).
- It is the first drug to be approved for Alzheimer's disease globally since 2003.
- AD is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and, eventually, the ability to carry out the simplest tasks.
- It is the most common cause of dementia – loss of cognitive thinking among older adults.
- It often starts with mild symptoms and ends with severe brain damage.
- The plaques and tangles in the brain are still considered some of the main features of Alzheimer's disease.
- Another feature is the loss of connections between nerve cells (neurons) in the brain.



Acute Respiratory Infections

- ARI is a serious ailment that prevents normal breathing function and kills an estimated 2.6 million children annually every year worldwide.
- Indians face the double burden of heavy air pollution in addition to the high rate of ARI which hits children the hardest.
- National Health Profile – 2019 says that Acute Respiratory Infections (ARI) accounted for 69.47% of morbidity (poor health) in the communicable disease category leading to 27.21% mortality (Loss of Life).
- ARI is highest in the Andhra Pradesh, Gujarat, Karnataka, Kerala, Tamil Nadu, Uttar Pradesh and West Bengal.
- **Implications** – Polluted air penetrate and inflame the linings of bronchial tubes and lungs.
- This leads to respiratory illness such as chronic bronchitis, emphysema, heart disease, asthma, wheezing, coughing and difficulty in breathing.
- It poses a high risk to pregnant women and the baby. The foetus receiving polluted air from mother can increase health risk of unborn babies.
- In pregnant women, it can cause a medical condition called intrauterine inflammation.

Avian Botulism

- Over 17,000 birds were found dead in the past few days in the Sambhar Lake in Rajasthan.
- It is not the first time that where deaths due to botulism have been recorded. It is reported in Lake Michigan in 2007 and 2008 and in Hawaii in 2008.
- The Indian Veterinary Research Institute (IVRI), Bareilly, states that climatic conditions were ultimately responsible for having triggered the mass die-off.
- It is occurred due to avian botulism, a disease caused by a bacteria that affects nerves.
- Botulinum is a natural toxin produced by a bacteria known as **Clostridium botulin**.
- It produces the toxin when it starts reproducing and attack the neurons which leads to muscle paralysis.



- It is commonly found in the soil, river, and sea water
- There are around eight types — A, B, C₁, C₂, D, E, F, and G — of botulinum toxin and they are distinguishable when diagnosed.
- Botulinum affects both humans and animals, but the type of the toxin varies — botulinum C in birds and A, B and E in humans.

Climate Change and Botulism

- It has been recognised as a major cause of mortality in wild birds since the 1900s.
- It needs anaerobic (absence of oxygen) conditions and does not grow in acidic conditions.
- It also requires a nutrient-rich substrate, like areas with large amounts of decaying plant or animal materials.
- Water levels in the lake were fluctuating throughout the year.
- Due to a good monsoon this year, the water level reached the lakebed after a gap of 20 years which provided a favourable environment for the bacteria to spread.
- The monsoon brought with it a large population of crustaceans (like shrimps, crabs, and prawns), invertebrates (snails) and plankton (like algae).
- These living organisms are capable of hosting the bacteria for a long period of time.
- It reproduces through spores and these spores remain dormant for years.
- Botulism outbreaks are likely to become more frequent as climate change alters wetland conditions to favour bacteria and pathogens.

Medical Devices

- Ministry of Health & Family Welfare has prepared a draft rule to bring all the non-notified Medical Devices under the regulation of the Central Drugs Standard Control Organisation (CDSCO).
- The Ministry has also proposed to notify all the Medical devices under the Drugs and Cosmetics Act, 1940 and Medical Devices Rules, 2017.
- CDSCO is under the Ministry of Health and Family Welfare.
- It regulates the safety, efficacy and quality of notified medical devices under the provisions of Drugs and Cosmetics Act, 1940 and Rules made thereunder.

Diarrhea Vaccine

- The University of Gothenburg in Sweden have recently developed a potential Diarrhea vaccine named “ETVAX”.
- The treatment aims to prevent enterotoxigenic E. coli (ETEC) diarrhea.
- It is common among children and is passed through food and water contaminated with feces.
- The infections typically come with symptoms ranging from chills and vomiting to cramps and fever.
- There is currently no vaccine in the market and the doctors typically prescribe antibiotics to infected patients.
- In adults, the doctors allow the illness to run its course and with strong immune systems, it typically fades after three weeks.
- It is a common illness among citizens of developing countries and those who travel there.

Measles

- Measles is a highly infectious acute viral illness that can lead to severe complications, such as pneumonia, encephalitis and death.
- Children younger than five years who get infected with measles have higher rates of complications, hospitalisation and even death.

- The disease is preventable through two doses of a safe and effective vaccine.
- Babies are protected against measles through maternal antibodies for the first six months based on studies carried out in measles-endemic settings.
- A recent study has shown that maternal antibodies against measles does not protect infants for the first 6 months of age.
- It shows that antibodies from the mother almost disappear by the end of three months.
- Hence, infants become susceptible to measles infection at the end of three months and not six months as earlier thought.
- Currently, as per WHO recommendations, children in India are vaccinated only at 9-12 months, leaving them open to infection.
- India currently gives a measles rubella vaccine in its universal immunisation programme to tackle both measles and rubella.
- India, as part of the global initiative, has targeted elimination of measles and control of rubella by 2020.

Jan Jagrukta Abhiyaan

- It is a mega awareness campaign on Dengue and Malaria in Delhi.
- It is organised by the Ministry of Health and Family Welfare in association with all three Delhi Municipal Corporations and New Delhi Municipal Council.

SeeTB

- Indian researchers have developed a small device named SeeTB, to detect Tuberculosis .
- The device can be attached to a simple optical microscope to convert it into a fluorescence microscope, thus enabling better TB diagnosis at the point-of-care.
- It is a battery-operated device and allows quick identification of the bacteria.
- When the performance was compared against GeneXpert, another diagnosis tool that looks for DNA markers of TB bacteria, SeeTB showed improved sensitivity.
- Also, while GeneXpert method takes about two hours, SeeTB can help find the bacteria in about 30 minutes.



OTHERS

Golden Rice

- In the late 1990s, German scientists developed a genetically modified variety of rice called Golden Rice.
- It was claimed to be able to fight Vitamin A deficiency, which is the leading cause of blindness among children and can also lead to death due to infectious diseases such as measles.
- Rice is naturally low in the pigment beta-carotene, which the body uses to make Vitamin A.
- Golden rice contains this, which is the reason for its golden colour.
- Now, Bangladesh could be on the verge of becoming the first country to approve plantation of this variety.
- In Bangladesh, over 21 per cent of the children have vitamin A deficiency.
- The Golden Rice that is being reviewed in Bangladesh is developed by the Philippines-based International Rice Research Institute.

Wooden Breast Syndrome

- Researchers have recently found that the Wooden Breast Syndrome affects broiler chickens by making the meat hard and chewy.
- It is a metabolic disorder characterised by abnormal fat accumulation in the breast muscle tissue.
- It involves inflammation of the veins in the breast tissue and accumulation of lipid around the affected veins.
- It is followed by muscle cell death and replacement by fibrous and fatty tissue.
- An enzyme called lipoprotein lipase is behind the syndrome and it is crucial for fat metabolism.
- At the onset of wooden breast syndrome, lipoprotein lipase was higher in affected chickens, leading to more fat accumulating in the breast muscles.
- This is an irregularity because breast muscle fibres in chicken typically rely on sugar molecules for fuel, not fat molecules.
- It can render the birds unmarketable and cause losses for growers.

25. INDEX AND REPORT

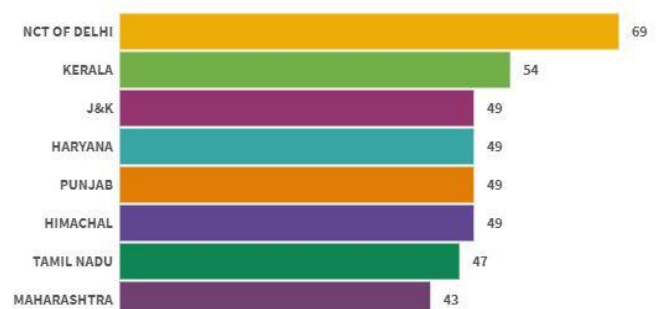
India Justice Report 2019

- The report was recently released by Tata Trusts.
- It is based on the four pillars of justice delivery such as police, judiciary, prisons and legal aid.
- It collects data from publicly available data of different government entities.
- It covered the themes like infrastructure, human resources, diversity (gender, SC/ST/OBC), budgets, workload and trends over the last 5 years.
- Centre for Social Justice, Common Cause, Commonwealth Human Rights Initiative, DAKSH, TISS- Prayas and Vidhi Centre for Legal Policy are other partners.
- **Key findings** – The country has about 18,200 judges with about 23% sanctioned posts vacant.
- Maharashtra has topped the list of states in delivering justice to people followed by Kerala, Tamil Nadu, Punjab and Haryana.
- Among the small states, Goa has topped the list followed by Sikkim and Himachal Pradesh.
- Smaller States are the ones where population is less than 1 crore each.

India Internet 2019

- Internet And Mobile Association of India (IAMAI) released the report “India Internet 2019”.
- Internet penetration is defined as number of individuals aged above 12 per 100 population who accessed the Internet during a particular period.
- According to the report, Internet penetration rate is highest in Delhi NCR (69%) followed by Kerala (54%).
- The lowest penetration rate was in Odisha (25), Jharkhand (26) and Bihar (28).
- It also notes that Kerala, Tamil Nadu and Delhi have the highest proportion of female Internet users.
- In terms of Internet subscriptions per 100 population, Delhi, Punjab and Himachal Pradesh and Kerala topped the list.
- The lowest subscriptions are from Bihar and Uttar Pradesh.

Internet penetration, 2019





- Kerala is among States with a huge gap between the number of rural and urban Internet connections. This is also the case in Delhi and Himachal Pradesh.

Travel and Tourism Competitiveness Index

- The Travel and Tourism Competitiveness Index (TTCI) is produced by the World Economic Forum (WEF).
- It measures the factors and policies that make a country a viable place to invest within the Travel and Tourism sector.
- India has secured 34th place in the Index.
- Ministry of Tourism, Government of India has taken several steps for creation of tourism infrastructure in the country to promote tourism such as
 1. **Swadesh Darshan** - Integrated Development of Theme-Based Tourist Circuits
 2. **PRASHAD**- Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive.
 3. **The Adopt a Heritage “ApniDharohar, ApniPehchaan”** – it is a collaborative effort by Ministry of Tourism, Ministry of Culture and Archaeological Survey of India (ASI), State/UTs Governments, envisages developing heritage sites and making them tourist friendly, to enhance tourism potential and cultural importance in a planned and phased manner.
