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AL Block, 4th Avenue, Shanthi Colony,
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November 2018
G.S PAPER II

1. POLITY

1.1 Enforcement of unconstitutional laws in India

What is the issue?

Indian laws continue to be implemented in the country despite being declared unconstitutional by the judiciary.

What are such legal pronouncements?

- **Section 66A** provides punishment for sending offensive messages through communication services.
- These messages may be any information created, transmitted or received on a computer system, resource or device including attachments in the form of text, images, audio and video.
- In 2015, the Supreme Court struck down Section 66A of the Information Technology (IT) Act, 2000, as unconstitutional.
- This decision under the Shreya Singhal v. Union of India judgement was heaped with praise by domestic and foreign media alike.
- However, even after the judgement, the Muzaffarnagar police in Uttar Pradesh arrested and detained a person for allegedly committing a crime under Section 66A for posting some comments on Facebook last year.
- Media outlets have also reported other instances where Section 66A has been invoked by the police.
- This points to a serious concern on the implementation of the verdict, if the police still jail persons under unconstitutional laws.
- This also shows a tendency of some laws to inhabit the Indian legal system even after their legal deaths.
- Media reports on the continued application of Section 66A lend themselves to a narrative that the police are abusing their power in hamlets to commit the most obvious wrongs.
- But the facts show that this is far from the truth.
- From police stations, to trial courts, and all the way up to the High Courts, we found Section 66A was still in vogue throughout the legal system.
- Also, the Supreme Court in Mithu vs. State of Punjab struck down Section 303 of the Indian Penal Code as unconstitutional.
- Section 303 provided for a mandatory death sentence for offenders serving a life sentence.
- In 2012, years after Section 303 had been struck down, the Rajasthan High Court intervened to save a person from being hanged for being convicted under that offence.
- Thus the issue of applying unconstitutional penal laws long preceded Shreya Singhal and Section 66A in the Indian justice system.

What are the reasons?

- The primary reason for poor enforcement of judicial declarations of unconstitutionality is signal failures between different branches of government.
- Today, the work of the Supreme Court has firmly placed it within the public consciousness in India.
- It is common to read reports about the court asking States and other litigants for updates about compliance with its orders (an example being orders in mob lynching petitions).
- While this monitoring function is one that the court can perform while a litigation is pending, it cannot do so after finally deciding a case, even after directions for compliance are issued.
- Instead, it needs help from the legislature and executive to ensure its final decisions are enforced.
- Commonly, in this context one thinks of **active non-compliance** that can undermine the work of courts as in the aftermath of the Sabarimala verdict.
- But these publicised acts of defiance have hidden what is a systemic problem within the Indian legal system.
- There exists no official method for sharing information about such decisions, even those of constitutional import such as Shreya Singhal case.
- For any bureaucratic structure to survive, it needs working communication channels for sharing information.
- The probability of decisions taken at the highest echelons of a system being faithfully applied at the lowest rungs greatly depends on how efficiently word gets to the ground.

- At present, even getting information across about court decisions is an area where the judiciary needs help.
- So, unless Parliament amends a statute to remove the provision declared unconstitutional, that provision continues to remain on the statute book.
- This is why both Sections 66A and 303 are still a part of both the official version of statutes published on India Code and commercially published copies.
- And while the commercially published versions at least mention the court decision, no such information is provided in the official India Code version.
- Besides reading statutes, the government officials should consult notifications and circulars issued by relevant Ministries.
- These notifications are another official method to share information about judgments declaring a provision unconstitutional.
- Since the issuance of these notifications is not mandatory, there is no means to ensure that they are issued.
- Also, there is no formal system on information sharing in the hierarchical set-up of the Indian judiciary.
- There are few exceptions in some High Courts and district courts who did issue circulars bringing important decisions to the notice of other members in the judiciary.

What should be done?

- The lack of authority to enforce its own decisions made the judiciary to be labelled as the least dangerous branch.
- There is a need to avoid human error in enforcing judicial decisions to the greatest possible extent.
- The urgency cannot be overstated since enforcing unconstitutional laws is sheer wastage of public money.
- It will also make certain persons remain exposed to denial of their right to life and personal liberty in the worst possible way imaginable.
- They will suffer the indignity of lawless arrest and detention, for no reason other their poverty and ignorance, and inability to demand their rights.
- Thus there is a pressing need to move from a system where communication about judicial decisions is at the mercy of initiatives by scrupulous officers.

1.2 Usage of Private member bill in parliament

What is the issue?

Demands for a private legislation to construct Ram temple in Ayodhya lead to the analysis of private member bill's usage in parliament so far.

What is a private member bill?

- Any MP who is not a Minister is referred to as a private member.
- The key role of the parliament is to debate and make laws and both Ministers and private members contribute to the law making process.
- Bills introduced by Ministers are referred to as government bills.
- They are backed by the government, and reflect its legislative agenda.
- However, Private member's bills are piloted by non-Minister MPs.
- Their purpose is to draw the government's attention to what individual MPs see as issues and gaps in the existing legal framework, which require legislative intervention.

What is its mode of introduction in the House?

- The admissibility of a private member's Bill is decided by the Rajya Sabha Chairman in the case of Rajya sabha.
- In the case of Lok Sabha, it is the Speaker, while the procedure is roughly the same for both Houses.
- The Member must give at least a month's notice before the Bill can be listed for introduction.
- The House secretariat examines it for compliance with constitutional provisions and rules on legislation before listing.
- Up to 1997, private members could introduce up to three Bills in a week.
- This led to a piling up of Bills that were introduced but never discussed.
- Therefore, the number of private member's Bills was later capped to **three per session**.
- While government Bills can be introduced and discussed on any day, private member's Bills can be introduced and discussed **only on Fridays**.

- Private member's Bills have been introduced and discussed in Rajya Sabha on 20 days in the last three years.

What is the procedure for its introduction?

- On the scheduled Friday, the private member moves a motion for introduction of the Bill, which is usually not opposed.
- Two recent exceptions to this convention were in 2004, when a bill seeking to amend the Preamble of the Constitution was opposed.
- Also in 2015, a Bill to decriminalise homosexuality was not introduced in Lok Sabha after the motion being defeated.
- However, the Supreme Court struck down IPC Section 377 recently.
- Only a fraction of private member's bills that are introduced, are taken up for discussion.
- Rajya Sabha draws a ballot to decide the sequence of discussion of Bills.
- If a Bill is successful in the ballot, it has to wait for the discussion to conclude on a Bill currently being debated by the House.
- For example, a Bill related to sittings of Parliament introduced in March 2017 was taken up for discussion only in August 2018.
- The discussion of this bill will resume when private member business is taken up in the upcoming Winter Session, and other private member's bills will have to wait for the debate to conclude.
- Over the last three years, Rajya Sabha saw the introduction of 165 private member's Bills and the discussion was concluded on only 18.
- A private member's Bill that is introduced but not discussed in Rajya Sabha, lapses when Member retires.

What happens after the discussion?

- Upon conclusion of the discussion, the Member piloting the Bill can either withdraw it on the request of the Minister concerned, or he may choose to press ahead with its passage.
- In the latter case, the Bill is put to vote and, if the private member gets the support of the House, it is passed.
- In 1977, Rajya Sabha passed a private member's Bill to amend the Aligarh Muslim University Act.
- The Bill then went to the sixth Lok Sabha, where it lapsed with the dissolution of the House in 1979.
- A bill pending in the Lok Sabha lapses, whether it originates in the Lok Sabha or transmitted to it by the Rajya Sabha.
- In 2015, Rajya Sabha passed The Rights of Transgender Persons Bill, 2014 as a private member's Bill.
- The Bill is now pending before Lok Sabha.
- The last time a private member's Bill was passed by both Houses was in 1970, which was the Supreme Court (Enlargement of Criminal Appellate Jurisdiction) Bill, 1968.
- Fourteen private member's Bills, five of which were introduced in Rajya Sabha, have become law so far.
- Some of the important legislations among them include **26th amendment**, which related to abolition of privy purses and 61st amendment, which reduced the voting age from 21 to 18.

1.3 Sale of Enemy Property

Why in news?

The Cabinet approved the sale of 'enemy shares' that are in the custody of the Ministry of Home Affairs or the Custodian of Enemy Property of India recently.

What is an enemy property?

- As per the Enemy Property Act, 1968, 'enemy property' refers to any property that was belonging to a person who migrated from India to an enemy country when a war broke out.
- During World War II, the US and the UK took over the properties of people who fled their shores to settle in 'enemy' countries such as Germany and Japan.
- This was touted as a move to protect their turf from hostile forces in enemy States who might take control of such assets and use it to their advantage.
- Similarly, in India too, after the war with China and Pakistan in 1962 and 1965, the government took over the properties, under the Defence of India Act, from persons who migrated to these countries.
- The confiscated property included both movable and immovable properties such as securities, jewellery, land, and buildings.

- Later in 1968, a law called the Enemy Property Act was enacted to regulate such properties and entrusted with the Custodian of Enemy Property (CEPI).
- Now, for the first time, the government has decided to sell off the property held in the form of shares ('enemy shares') which are lying with the custodian.
- The sale is expected to fetch about Rs 3,000 crore and will be counted as disinvestment.
- It expects to use these proceeds from sale for development and social welfare programmes.
- With the Cabinet approval, the disposal of other properties such as land and building could also likely to happen.

Why is it important?

- The property now approved for sale consists of about 6.5 crore shares which are under the custody of CEPI belonging to 20,323 shareholders in 996 companies.
- Of these, 588 companies are currently functional and 139 are listed on stock exchanges.
- Hence, selling these shares will lead to monetisation of assets that have been lying dormant for decades.
- The government also made amendments to The Enemy Property Act, 1968 recently.
- It has made even the property **lawfully transferred** by the 'enemy' (the fleeing citizen) to his/her **legal heir or successor** before migrating to Pakistan or China, to come under enemy property.
- To illustrate, say a person 'A' transferred his property to his son in 1963 and migrated to Pakistan during the war in 1965.
- After the amendment to the Act, the property transferred by A before migrating, now owned by his son, also falls under the definition of 'enemy property' and can be confiscated.
- Thus inheritance law will not be applicable on Enemy Property.
- The government introduced this amendment to put an end to the long-lasting disputes on claims made by the legal heirs.
- Thus these measures come at a time when the government facing the concerns with the twin deficits and hence it can pave the way to balance its budget.

What is the ongoing process?

- The process for selling these shares is to be approved by the Alternative Mechanism (AM) under the chairmanship of finance minister.
- The other members of the committee will include Minister of Road Transport and Highways and Home Minister.
- The AM will be supported by a high-level committee (HLC) of officers co-chaired by the secretaries of the department of investment and public asset management (DIPAM) and the ministry of home affairs (MHA).
- It would give its recommendations with regard to quantum, price and principles, as well as mechanism for sale of shares.
- The government has so far raised Rs 10,028 crore as disinvestment proceeds this fiscal against the target of Rs 80,000 crore.
- The 2017 amendment had just made an enabling legislative provision for the disposal of enemy property.
- With the approval, now, of the procedure and mechanism for sale of enemy shares an enabling framework has been institutionalized for their sale.

1.4 Re-election on Maximum NOTA Votes - Maharashtra

Why in news?

Maharashtra State Election Commission (MSEC) recently ruled if NOTA gets the maximum votes in an election, re-elections will be held.

What is the decision?

- The MSEC supervises elections to panchayats and municipalities in the state.
- For local body polls in Maharashtra, the NOTA will now be treated as a "fictional electoral candidate".
- None of the contesting candidates will be declared as elected and fresh elections would be held, if NOTA gets maximum votes.
- The order will be applicable to polls and bypolls to all municipal corporations, municipal councils and nagar panchayats.
- It comes five years after the Supreme Court ordered the Election Commission to introduce a 'None of the Above' (NOTA) button on all electronic voting machines (EVMs).

- But earlier, irrespective of the NOTA votes, the contesting candidate with the highest number of votes was declared a winner.
- This was the case even if NOTA has polled more votes than the candidate with the highest votes.

Why is it significant?

- This is perhaps the first time that the option was being introduced anywhere in the country.
- The SC had wished that the introduction of NOTA will -
 - i. improve the electoral process through increased voter participation
 - ii. compulsion on political parties to field good candidates
 - iii. reflection of negative votes in an election result
- Giving effect to all these, the MSEC's decision would now honour and respect the majority will and opinion of the people.
- The MSEC's move also speaks for the true spirit of decentralization of power down to the third tier.

What are the other initiatives of MSEC?

- The SEC of Maharashtra has brought in some key electoral reforms in the last few years.
- It is the first one to go fully digital in the filing of nomination papers and affidavits of all candidates.
- This has eliminated most errors and enabled instant dissemination of information to the voters.
- It is the first SEC in the country to cancel registration of more than 250 political parties for failure to submit audited accounts in time.
- It is also the first one to disqualify an elected representative for failure to comply with expense disclosure rules.

1.5 CBI vs States – Withdrawal of general consent

Why in news?

The Andhra Pradesh and West Bengal governments recently withdrew general consent to the CBI for investigating cases in their respective states.

What is the reason behind?

- The two state governments said that they had lost faith in the CBI in the backdrop of its internal turmoil marked by the open war among the agency's top officers.
- They have also alleged that the Centre is using the CBI to unfairly target Opposition parties.
- However, the centre argues that there is no sovereignty for any state in the matter of corruption.
- It accuses the states that this was motivated by a general fear of what investigations might reveal rather than by any particular case.

What is a general consent?

- The CBI is governed by the Delhi Special Police Establishment Act that makes consent of a state government mandatory for conducting investigation in that state.
- There are two kinds of consent in the form of case-specific consent and general consent.
- Central government through notification can ask CBI to investigate against central government employees against Income tax violations, conspiracy against nation, spying etc.,
- As law and order belongs to the states, all states normally gave a general consent to CBI for these investigations.
- "General consent" is normally given to help the CBI seamlessly conduct its investigation into cases of corruption against central government employees in the concerned state.
- For example, if CBI wanted to investigate a bribery charge against a Western Railway clerk in Mumbai, it would have to apply for consent with the Maharashtra government before registering a case against him.
- However, despite central government notification, CBI can't investigate any case registered by state government against state government employees or institutions.
- Thus the modality of CBI investigation into state government matters is that state governments has to request CBI with permission for a particular case.
- This will be followed by a central notification to the CBI for that case.
- Only if High courts or the Supreme court rules that there is a need for CBI investigation, then it is deemed that the consent of state government is there and thus central government notifies.



- Withdrawal of a consent means that the CBI will not be able to register any fresh case involving a central government official or a private person without getting case-specific consent from the states.
- This shows that a general consent is not sufficient enough to investigate and CBI has to get case-specific consent from the states.
- It simply means that CBI officers will lose all powers of a police officer as soon as they enter the state unless the state government has allowed them.
- It also makes them to seek permission of the state government for every case and every search it conducted on central government employees.
- Over the years, several states have withdrawn general consent, including Sikkim, Nagaland, Chhattisgarh and Karnataka, which stands out as an example for the recent move.

Does the CBI can no longer probe any case in the two states?

- The general consent has been withdrawn by the two states under Section 6 of the Delhi Special Police Establishment Act, 1946.
- Section 6 of the Act bars any member of the Delhi Special Police Establishment to exercise powers and jurisdiction in any area in a State, without the consent of the Government of that State.
- This is in stark contrast to Section 5 of the Act gives powers to the CBI over all areas in the country.
- However, the CBI would still have the power to investigate old cases registered when general consent existed.
- Also, cases registered anywhere else in the country, but involving people stationed in Andhra Pradesh and West Bengal, would allow CBI's jurisdiction to extend to these states.
- There is ambiguity on whether the agency can carry out a search in either of the two states in connection with an old case without the consent of the state government.
- However, there are legal remedies to that as well.
- The CBI can always get a search warrant from a local court in the state and conduct searches.
- In case the search requires a surprise element, Section 166 of CrPC allows a police officer of one jurisdiction to ask an officer of another to carry out searches on his behalf.
- And if the first officer feels that the searches by the latter may lead to loss of evidence, the section allows the first officer to conduct searches himself after giving a notice to the latter.

What happens in fresh cases?

- Withdrawal of consent will only bar the CBI from registering a case within the jurisdiction of Andhra and Bengal.
- The CBI could still file cases in Delhi and continue to probe people inside the two states.
- The Delhi High Court makes it clear recently that the agency can probe anyone in a state that has withdrawn "general consent" if the case is not registered in that state.
- The order was given with regard to a case of corruption in Chhattisgarh, which also gives consent on a case-to-case basis.
- The court ordered that the CBI could probe the case without prior consent of the Chhattisgarh government since it was registered in Delhi.
- Thus, if a state government believes that the ruling party's ministers or members could be targeted by CBI on orders of the Centre, and that withdrawal of general consent would protect them, it would be a wrong assumption.
- CBI could still register cases in Delhi which would require some part of the offence being connected with Delhi and still arrest and prosecute ministers or MPs.

1.6 Usage of Preferential voting system

What is the issue?

The preferential voting system ensures a truly representative winner and it can be considered as an alternative to FPTP in India.

What is a preferential voting system?

- Preferential voting is a system of voting in which voters indicate their first, second, and lower choices of several candidates for a single office.
- Under this, a voter can choose just one candidate, but also rank candidates in an order of preference.
- If a candidate wins 50% of the mandate plus one vote, he/she is declared the winner.

- But if the candidate falls short of this threshold, the candidates are ranked again based on the second choice of a voter.
- And if this still falls below the threshold, the contest moves on to the third round, and so on.
- This system of voting is used for elections to the House of Representatives in Australia and to elect some mayors in New Zealand, along with some other countries.
- Nobel laureate Amartya Sen had lauded the preferential voting system, as the ordered voting allows for a true majority choice to emerge, both in the form of the candidate chosen as well as the reflection of the views of the majority, unlike the simple first-past-the-post (FPTP) system.

What is the case with India?

- India follows a first-past-the-post (FPTP) system.
- In the FPTP system, the leading candidate can win an election despite winning a minority of the votes.
- The candidate with the highest number of votes, irrespective of the margin of victory or percentage of votes polled, is declared the winner.
- The FPTP has several advantages due to which it is considered to be the simplest electoral system.
- It is an easy system to understand, wherein the choices for the voters are clear and the counting is also simple and straightforward.
- The system also guarantees one representative for each constituency who is accountable to his electorate, which is not necessarily the case in other voting systems.
- Also, candidates get to know their relative support in the constituency, unlike other systems where electors vote for a party, and not for individual candidates.
- In a country such as India, with near one billion voters, the ease of administering voting in this system almost makes it the most viable model to follow.
- However, in states like U.P. and Bihar, parties which secure less than 50% of the vote tend to win substantive majorities.
- The FPTP system rewards parties who target and treat preferentially specific segments of the electorate, or “vote banks,” rather than the majority of electors.
- It thus rewards divisive electoral strategies and encourages parties to field tainted candidates.
- In the past, this was mitigated at the Central level by the need for coalitions.
- Even if the leading party in the election fell short in vote share terms, it had to get the support of regional parties to go past the halfway mark in seat terms.
- This rendered the system a truly representative one.
- However, in the 2014 general elections, the ruling government won the majority of seats despite a vote share of only 38.5% and little accretion of outside support after the election.
- Thus, even if the preferential voting system is more complicated than the FPTP system, it is worth considering as a just alternative in the longer term.

1.7 Appointment of Election Commissioners

Why in news?

The Supreme Court is hearing a PIL on the appointment of Chief Election Commissioner and Election Commissioners.

What is the reason behind?

- Article 324(2) of Constitution states that the President shall, with aid and advice of Council of Ministers, appoint CEC and ECs, till Parliament enacts a law fixing the criteria for selection, conditions of service and tenure.
- But a law has not been enacted for the purpose so far.
- Hence a PIL was filed in the Supreme Court seeking a fair and transparent procedure for appointment of CEC and ECs.
- It has pointed out that the process for appointment of the CEC and ECs was different from those for other top constitutional positions.
- The Supreme Court, earlier, acknowledged that till now good persons have been appointed in the poll panel.
- Yet, it has questioned the mandate of the parliament to frame a law for this purpose and has recently referred the matter to the Constitution Bench.

How does the electoral system evolve in India?

- Electoral democracy in India owes a great deal to the foresight of the Constituent Assembly.

- When the Constituent Assembly debated how free and fair elections should be ensured, three important questions arose.
- 1. *Whether free and fair elections should be made a part of fundamental rights or an independent institution, outside the executive, should be established to conduct the elections?*
- The Assembly opted for the latter and created the Election Commission of India.
- 2. *Whether to have a single, centralised body for elections to the Lok Sabha and State legislatures or not?*
- One proposal was that the ECI be confined to federal elections, and separate institutions be set up to conduct elections to State legislatures.
- However, with increasing tension among communities, the Assembly feared partisan action in the States and opted for a single national institution, the ECI.
- Originally, the Constitution had provided for tribunals set up by the ECI to hear election petitions.
- But aggrieved parties approached the courts, and the courts decided to hear election petitions.
- Then the ECI itself recommended that election petitions be heard by the judiciary, and in 1966, the law was changed accordingly.
- 3. *How to ensure the independence of the ECI?*
- The Assembly provided simply for the CEC to be appointed by the President, leaving it to the legislature to enact a suitable law, which never happened.
- Also on removal, though the CEC is provided with a security of tenure and could only be removed through impeachment, other EC's can be removed on the recommendations of CEC.
- Hence for the ECs, even the safeguard of removal was not provided, which is also a subject matter of the above-mentioned PIL.

What has this resulted in?

- From 1967 to 1991, the one-party dominance in the national politics was getting faded, political competition intensified.
- The political actors stepped up violence and electoral malpractices.
- The ECI could not arrest this deterioration.
- Several State governments made large-scale transfers on the eve of elections and posted pliable officials in key positions, who sometimes flouted the ECI's orders.
- However, during the 1996 general election, the ECI restored the credibility of the election process.
- It publicly reprimanded politicians for violating the Model Code of Conduct, postponed/ cancelled elections if their credibility was compromised, intensified supervision of elections, and insisted on action against errant officials.
- The ECI has since become an institution of some authority, but still controversies over appointments of ECs, allegations of partisanship, voter bribery and paid news prevail.

What should be done?

- A selection committee for appointment (CEC and EC) should be made which could involve –
 1. The prime minister
 2. The leader of opposition
 3. The speaker (presiding officer of the Lok Sabha)
- Thus, though there can be no perfect process, any process involving greater inclusion, representativeness and diversity would be superior to the government of the day making the selection.

1.8 Dissolution of Jammu and Kashmir Assembly

What is the issue?

- Jammu and Kashmir Governor Satya Pal Malik recently dissolved the State Assembly, amidst tussle in forming government.
- The Governor's decision seems to lack proper constitutional and legal rationality.

What was going on in J&K?

- The Jammu and Kashmir State has been under Governor's rule since June.
- It was the time when BJP withdrew from the coalition and Chief Minister Mehbooba Mufti, of Peoples Democratic Party, resigned.
- The PDP and the National Conference had not initiated any move to form a popular government for months.

- They had been idle for long, favouring fresh elections.
- The Governor's move came soon after PDP leader Mehbooba Mufti staked claim to form government.
- She cited a collective strength of 56 MLAs in the 87-member House, with the support of the National Conference and Congress.
- A separate claim to form a government was made by Sajad Gani Lone of the two-member People's Conference.
- He claimed support of the BJP and 18 MLAs from other parties.

What is the governor's rationale?

- Mr. Malik's stated reasons for his action are
 - i. extensive horse trading (vote trading)
 - ii. the possibility that a government formed by parties with "opposing political ideologies" would not be stable
- He also mentioned the fragile security scenario in the state, which calls for a stable and supportive environment for security forces.

Is the Governor's decision justified?

- The Governor ought to have known that the Supreme Court has earlier disapproved these kinds of reasoning.
- In Rameshwar Prasad (2006) case, the then Bihar Governor Buta Singh's decision to dissolve the Assembly was held to be illegal and mala fide.
- In Bihar, the Assembly was then in suspended animation as no party or combination had the requisite majority.
- **Alliances** - With the BJP backing Sajjad Lone, the PDP may have sensed a danger to the unity of its 29-member legislature party.
- It thus agreed to an unusual alliance with its political adversaries.
- Describing such an alliance as opportunistic is fine as a political opinion; but it cannot be the basis for constitutional action.
- As held by the Court, a Governor cannot shut out post-poll alliances altogether as one of the ways in which a popular government may be formed.
- **Horse trading** - The court had said unsubstantiated claims of horse-trading or corruption for government formation cannot be cited as reasons to dissolve the Assembly.
- Delay in forming government cannot be the reason for the Governor to dissolve the 87-member House.
- Notably, the parties were just about to come together to form a likely 56-member bloc (more than required).
- But the Governor has dissolved the Assembly without giving any claimant an opportunity to form the government.
- Clearly, the J&K Governor's reasoning is irrelevant and the decision is violative of constitutional law and convention.

What should have been done?

- The court has said it was the Governor's duty to explore the possibility of forming a popular government.
- He could not dissolve the House solely to prevent a combination from staking its claim.
- Mr. Malik's remarks that the PDP and the NC did not show proof of majority or parade MLAs indicate a disregard for the primacy accorded to a floor test.
- In the interest of political stability in this sensitive State, it is essential that democratic processes are strengthened.

1.9 Shifting to Register-Based Census

What is the issue?

- Activities for the next decennial Census of India falls due in 2021.
- It is high time that India takes note of the transformation in census methods elsewhere in the world.

What is the recent development?

- There has been a remarkable transformation in census methods elsewhere in the world, mostly in Europe, in last two decades or so.
- The traditional census approach adopts the questionnaire-based method.
- Instead, attempts are being made to use data from various administrative data registers.

- Mostly, data from government sources are used, to produce useful statistics.

What are the noteworthy methods elsewhere?

- **Austria** - The traditional census involves a high burden for respondents, and a huge cost (€72 million).
- In 2000, the Austrian government decided that the 2001 census would be the last traditional one.
- Consequently, a register-based “test census” was conducted in 2006, successfully testing the methods, data procedures and use of registers.
- The first complete register-based 2011 census had no burden for respondents, and the cost declined to €10 million.
- Most of the data were already available in several registers like the Integrated Data Bases for persons, families, households, buildings and dwellings, and locations of work.
- Data was also available from municipalities, geo-information statistical databases and interactive maps.
- The difficult task of combining all large registers was done by using a special identification number for persons.
- At times, same variables featured in many registers.
- Variables not in any register, such as “language mostly spoken” and “religion”, were collected by suitable sample surveys.
- **Germany** - Germany conducted a nationwide census in 2011 after a 20-year gap.
- This first register-based census was a multiple-source, mixed-mode method to collect data from administrative registers.
- They include population registers, full enumerations and a sample survey.
- **Others** - In Swiss too, since 2010, information is primarily drawn from population registers and supplemented by sample surveys of about 5% of the population.
- Nordic countries such as Norway, Finland, Sweden and Denmark have a long tradition of using administrative registers for producing official statistics.
- They now conduct population censuses using administrative data registers rather than through a nationwide survey of households.
- Netherlands has held virtual censuses since 1981, using the Population Register and surveys.
- Estonia, perhaps the most advanced digital nation in the world, used a combined census methodology using several registers along with an e-census in 2011.
- However, Estonia is now moving towards a completely register-based census for 2021.
- UK would replace the decennial census beyond 2021 by statistics produced by more regular and timely administrative data.
- Greenland in North America and Singapore and Bahrain in Asia are also making effective use of registers for their censuses.

What lies ahead for India?

- India should think beyond the traditional questionnaire-based approach.
- While the country's 2011 Census cost about Rs 22 billion, the 2021 Census could cost about Rs 46 billion.
- Instead, billions of rupees can be saved by making use of the administrative data of several available registers instead.
- Nevertheless, it would be a challenging task for a country like India with 1.3 billion.
- But, India does have the statistical and technological expertise.
- Several government registers can be combined along with tax, hospital and educational records to produce statistics similar to the census.

2. GOVERNMENT ACTS, AND POLICIES AND INTERVENTIONS

2.1 Direct Benefit Transfer for Electricity

Why in news?

Mandatory use of Direct Benefit Transfer (DBT) for all electricity subsidies has been proposed in the recent draft amendments to the Electricity Act and the National Tariff Policy.

How does DBT help?

- DBT is a method through which a subsidy will be directly transferred to the bank accounts of consumers.
- DBT has reported success in subsidies for LPG and for wages under MNREGA.

- It potentially helps to target subsidies, incentivise behaviour change and reduce wastage of public funds.
- At present, the electricity subsidy is provided by the State government to the distribution company (Discom).
- However, Rajasthan government announced DBT for providing Rs.10,000 as subsidy annually to each agricultural consumer.
- Punjab and Gujarat are also using the mechanism in small-scale pilot projects.

What are the precautions to be taken before implementing?

- **Over-estimation** - About 90% of electricity subsidies accrue to agricultural consumers and some sections of residential consumers.
- However, most beneficiaries are unmetered and the subsidy is provided on assumed consumption norms, which are often overestimated.
- e.g In UP the assumed monthly consumption for a rural home is 72 units, which is closer to the average consumption of homes in Mumbai and Hyderabad, typical urban areas.
- Such overestimation implies that losses incurred by the Discom are taken as additional consumption by unmetered consumers, which State governments end up subsidising.
- In such a case, DBT could never end overestimated consumption, as the benefits will somehow be transferred to consumers.
- **Identification** - There are issues in identifying the subsidy recipient where the users of electricity are tenants, but the connection is in the name of the property owner.
- There is a need for legal and regulatory steps to ensure that the subsidies are provided to electricity users rather than the owners.
- Similar safeguards should be ensured for joint ownership and in cases of inheritance issues.
- **Prior deposition** - Consumers might find it difficult to manage if the unsubsidised bill is to be paid prior to subsidy transfer.
- Therefore, similar to DBT in LPG, some subsidy can be deposited initially into the bank accounts to enable first payment.
- **Delay in payment** - Currently, subsidy payments are often delayed by State governments for prolonged periods to discoms.
- Though unfair, at least DISCOMs were able to operate. But same will not be the case when it comes to individual households.

What should be done?

- Section 65 of the Electricity Act can be amended to provide regulatory mandate for monitoring DBT implementation when adopted by the state.
- Also, before universal DBT for electricity is applied, close attention needs to be paid to on-going pilots and more large-scale pilots.
- Electricity Regulatory Commissions, Discoms and State Governments should allow different kinds of pilots with strong monitoring, evaluation and learning mechanisms, before signing on to universal adoption.
- Further, there is a need for third-party audits authorised by regulatory commissions.

2.2 Challenges before PMUY

What is the issue?

The Pradhan Mantri Ujjwala Yojana is facing challenges to achieve its ambitious goal of popularizing cleaner fuel.

What is PMUJ about?

- Pradhan Mantri Ujjwala Yojana (PMUY) aims to safeguard the health of women & children by providing them with a clean cooking fuel LPG.
- The scheme try to ensure women empowerment by issuing connection in the name of women of the households.
- Under the scheme identification of the beneficiaries i.e. BPL families will be done through Socio Economic Caste Census Data.
- The PMUY rules were amended to allow households to opt for two 5 kg cylinders instead of one 14 kg cylinder initially and shift to a 14 kg one after a few months.
- That is based on two assumptions the household's willingness to pay for the fuel will rise and that the household will get habituated to the convenience of cooking with LPG which will lead to increased consumption of the fuel.

What are the challenges before the scheme?

- A recently published study called ACCESS by the Council for Energy, Environment and Water across six cities shows, a large number of households stack LPG and biomass.
- Only a small proportion of these households use LPG alone for cooking.
- Affordability of refill and difficulty in getting a refill are the reasons for this scenario.
- In rural India many households are using biomass such as firewood, crop residue and dung cakes as their primary cooking fuels which are much affordable for them.
- The CEEW study across Uttar Pradesh, Madhya Pradesh, Jharkhand, Bihar, West Bengal and Odisha found people were unwilling to pay upfront ₹900-1,000 for a 14 kg refill but would pay about ₹300 for a refill which is about the price of refilling a 5 kg cylinder.
- While it is true that use of cylinders does increase over the years, the assumption of union government on cylinder consumption ignores the volatility in rural incomes.
- It also ignores that that most rural women do not have a say in determining when a refill is ordered, even though the connection is in their name.

What lies ahead?

- The government and the oil marketing companies therefore, need to find ways in which they can get more households to use LPG as their primary fuel.
- For one, the option of getting a 5-kg refill for a few years along with the subsidy may just help.

3. SOCIAL ISSUES

3.1 Disquieting Facts of Statue of Unity

Why in news?

Colossal statue of India's Independence leader Vallabhbhai Patel has been inaugurated in Gujarat.

What is the significance of statue of unity?

- The government has indicated that the 182-metre high statue, the world's tallest, is in commemoration of Patel's efforts.
- The 182 meter height was decided to match the number of assembly constituencies in the state.
- The statue is being built near the Sardar Sarovar Dam in the tribal-dominated Narmada district, close to 200 kilometres from Ahmedabad.
- He was India's first deputy prime minister to create the Union of India out of disparate provinces and princely states in the early years after Independence.

What are few disquieting issues about the project?

- **Huge investment** - The cost of the project is almost Rs 30 billion, it is hard to argue that this is the most important priority for a cash-strapped government.
- The government would argue that the project is capable of earning significant amounts of revenue from tourism made possible by the construction of the statue.
- But it could also be argued that the money spent on the statue could instead have funded several modern institutes of higher education; or, for that matter, irrigated several tens of thousands of under-productive agricultural land.
- **Social concerns** - The statue is located in controversial Sardar Sarovar project, which continues to be dogged by accusations of a failure to properly resettle and rehabilitate the members of the Scheduled Tribes, who were displaced.
- **Political will** - The tallest statue in the world has been built in a relatively short time it was announced before 2014, but construction only took off in recent years. It has been delivered well before estimates.
- This is another reminder, if any was in fact needed, that India can get its act together when it comes to projects if the political will indeed exists.
- **Pressure of the government** - About 10 per cent of the funding for the statue came from the corporate social responsibility budgets of various public sector undertakings.
- It is a classic example of government pressuring companies to pay up for the administration's desire to put up grand projects, this will also lead to competitive statue-building in other states.

3.2 Economic Condition of Muslims in India

Why in news?

According NSSO labor force survey the economic condition of Muslims does not show any signs of improvement in India.

What are the report findings of NSSO?

- The NSSO's 68th round (2011-12) provides estimates of education levels and job market indicators across major religious communities in India.
- The educational attainment of Muslims is the least among all these communities.
- In urban areas, the number of male Muslim postgraduates is as low as 15 per 1,000.
- This number is about four times lower than that of other communities, including Hindus, Christians and Sikhs.
- The number of male graduates among Muslims is 71 per 1,000, less than even half the number of graduates (per 1,000) in other communities.
- Similarly, the number of Muslims educated up to the secondary and higher secondary levels is 162 and 90 per 1,000 persons, respectively, again the least among all the communities.
- The average per capita consumption expenditure (used as an indicator of income) among Muslims is just Rs. 32.66 per day, which is the least among all religious groups.

What are the concerns spotlighted by the report?

- An analysis of the data on economic and educational indicators for various religious groups reveals that Muslims are facing a vicious circle of poverty.
- Poor achievement at higher levels of education is partly a reflection of similarly low levels of school education or of illiteracy.
- Around half the Muslim population over 15 years is either illiterate or has only primary or middle school education.
- Muslims have the lowest attendance rates and educational attainment especially in higher education, this can be explained by their income level and higher costs for post-secondary education.
- The signs of Indian Muslims being caught in a vicious circle of poverty are visible in terms of their low consumption expenditure and poor job market indicators, including LFPR, employment status, and worker population ratio.

What measures needs to be taken?

- The Central and State governments could take concerted steps to help Indian Muslims escape this vicious circle of poverty.
- One way to improve their situation is to provide a special incentive and subsidy system for higher education.
- That will ensure that school going students continue to higher levels of schooling and higher education.
- Similarly, students who don't wish to continue in general academic education must have access to vocational education from Class 9 onwards.

3.3 1984 Anti Sikh Pogrom

Why in news?

The first order of capital punishment in the 1984 anti-Sikh riots case after the 2015 reopening was announced recently.

What was the verdict in this case?

- The punishment was announced by the Patiala House court.
- It is in connection with one of the cases reopened by the Special Investigation Team (SIT).
- The SIT was formed by the Ministry of Home Affairs (MHA) in 2015; a year after the NDA government came to power.
- Earlier, the case was closed in 1994, with the Delhi Police citing a lack of evidence.
- Court records reveal that a mob of 500 people, including the two accused, allegedly burnt shops and looted the area.
- Convict Yashpal Singh, who was accused of killing two persons during the anti-Sikh riots in Delhi's Mahipalpur area, was given the death sentence.
- The other convict, Naresh Sherawat, will be serving a life term in prison.
- The court directed that the complete original case file be submitted to the Delhi High Court for confirmation of the death penalty.

- As per the Code of Criminal Procedure (CrPC), the death penalty cannot be executed unless confirmed by the High Court.
- This is the first time a convict has been handed the death sentence in the 1984 anti-Sikh riots after the cases were reopened by the SIT in 2015.
- The last time a person involved in the anti-Sikh riots was sentenced to death was in 1996.
- This verdict offers a glimmer of hope for substantial justice despite the passage of 34 years

What happened in 1984 anti Sikh riots?

- Anti-Sikh pogrom of 1984 was a watershed event in India's secular consciousness.
- In June 1984, Operation Bluestar was launched to 'flush out' armed Sikh separatists who had taken refuge in the Golden temple premises, Amritsar.
- Most of the Sikh community was angered by the damage caused by the Army's assault on the Golden Temple.
- On October 31 1984, the then Prime Minister Indira Gandhi was assassinated by her Sikh bodyguards as a revenge.
- The assassination was followed by the anti-Sikh riots in 1984.
- The riot lasted three days with Sikhs raped and murdered, their homes and businesses torched, especially in Delhi.
- In the Mahilapur case, Delhi, a mob of about 500 persons, led by the two convicts, had encircled the house of the victims and had killed them.
- It was just one of the incidents out of several others in Delhi.
- Of the 650 cases registered in connection with the anti-Sikh riots in Delhi, 267 were closed as untraced by the Delhi Police.

What is the significance of this judgment?

- The judgment is significant in many ways, especially in terms of the time taken etc.,
- The conviction of two rioters marks a rare success in the long struggle to bring the perpetrators to justice.
- This case was reopened after being closed as 'untraced' in 1994.
- The court also concluded that the testimony of key witnesses, who were themselves injured, was cogent and reliable despite minor discrepancies in evidences.
- The latest verdict demonstrates that these many years (34 years) was not an impediment to the project of securing justice.

What were the challenges in bringing the perpetrators to the justice?

- Large sections of the police cooperated illegally with the rioters, who included Congress functionaries and supporters.
- This was a major factor that hampered the investigation into the 1984 riot cases.
- Manipulative investigation and shoddy prosecution along with the slow judicial process are the other challenges.
- This judgment is only a token reassurance that can at best send out a message to limit the complaint that nothing was done.
- A long-time Congress functionary, Jai Pal Singh, had been tried and acquitted by a magistrate's court as early as in 1986.
- Still the main culprits in the anti-Sikh riot are yet to be brought to the justice.

3.4 Understanding the Tribes of Andaman

Why in news?

Recently the Sentinelese tribes of A&N Island have rejected external contact in the most emphatic way possible.

What is the demographics of A&N islands?

- The Andaman Island has divided into four different regions namely North, Middle, South and Little Andaman.
- The four major tribes of Andaman are as follows



1. **Great Andamanese** - Strait Island is the part of North and Middle Andaman district which is the home to Great Andamanese tribe, Fewer than 50 Great Andamanese are alive today.
2. **Jarawa** - South Andaman and Middle Andaman Islands is inhabited by the Jarawa tribes, there are only 300-400 people of this community alive today.
3. **Sentinelese** - North Sentinel Island is part of North Andaman region which is home to the Sentinelese tribe, only 50-100 tribes are alive today.
4. **Onge** - The Little Andaman Island is home to Onge tribes, these tribes are fewer than 100.

- Apart from there are nine Nicobar Islands that are home to Particularly Vulnerable Tribal Groups (PVTGs).

What are the characteristic features of A&N tribes?

- **Race** - The Andaman tribes including the Sentinelese are Negrito, where the Nicobar tribes are Mongoloid.
- The A&N tribes are short stature possibly due to the “island effect” that causes genetic limitation over time.
- **Habitat** - The Sentinelese are a pre-Neolithic people who have inhabited North Sentinel Island for an estimated 55,000 years without contact with the outside world.
- The reclusive Sentinelese still hold their tiny fort and all remain animistic in faith.
- What makes these tribes special is that they are protected by coral reefs that make landing on their island dangerous, and by the tribe’s unwavering hostility towards outsiders.
- **Occupation** - Seafaring, Hunting, Forest dwelling are the predominant occupation of these tribes.
- In recent times most tribes have abandoned hunting-gathering and depend entirely on government help.

What are the problems faced by A&N tribes so far?

- **Intrusion** - Missionaries had greater success on the Nicobar Islands to the south, which lie on the ancient marine trade route between Europe and the Far East.
- But missionaries have been historically unwelcome in the Andamans, and the tribes of the Islands have resisted every occupation force with bows and arrows.
- Even recently an American missionary was killed by Sentinelese tribes in north sentinel Island when he violated the law and tried to contact the tribes.

- **Diseases** - Due to their isolation it is unlikely the Sentinelese have immunity against even common diseases.

- A large chunk of the population of the 10 Great Andamanese tribes was wiped out after the indigenous peoples caught syphilis, measles, and influenza on an epidemic scale following contact with the early settlers.

- **Natural Disasters** - The habitats of the A&N tribes are prone to natural disasters like tsunami and earth quakes.

- Global warming has a high toll on this poor tribes, who are less resilient to recent climatic changes.

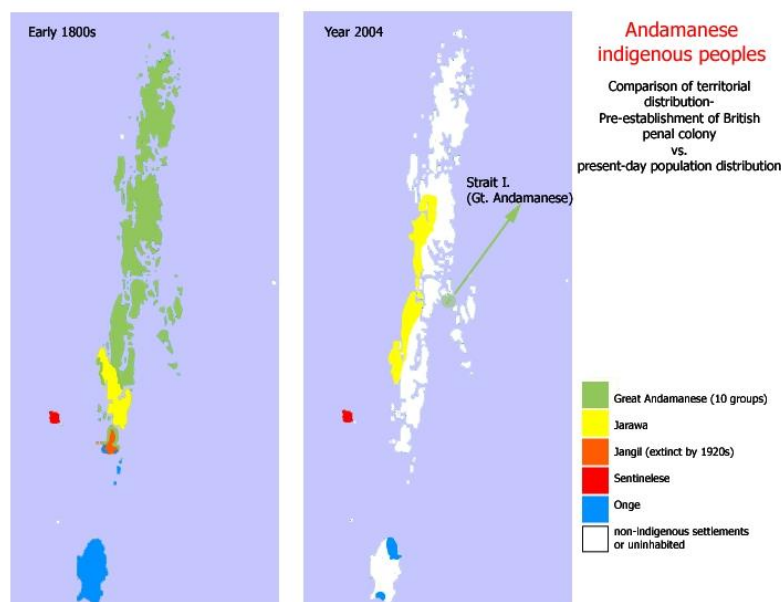
- **Developmental Projects** - When NH 223 was being built in the 1980s, the Jarawa repeatedly attacked workers, the state power-fenced the construction site, and several tribal were electrocuted.

- In recent times local touts and policemen conducting human safaris on NH 223 that cuts through the Jarawa reserve.

- The highway continues to bring the world and sexual exploitation, substance abuse and disease into their shrinking sanctuary.

What are the measures taken by government in this regard?

- The Sentinelese and other aboriginal tribes of the archipelago are protected under The Andaman and Nicobar (Protection of Aboriginal Tribes) Regulation, 1956.
- According to the regulations,



1. Traditional areas occupied by the tribes are declared as Reserves.
 2. It prohibited entry of all persons to reserves except those with authorization.
 3. Photographing or filming the tribe members is also an offence.
- Under the Foreigners (Restricted Areas) Order, 1963, the Andaman & Nicobar Islands are a “Restricted Area” in which foreigners with a restricted area permit (RAP) can stay on 13 islands, and make day visits to another 11.
 - The government gave up in the mid-1990s, and in order to safeguard their health and sovereignty, decided that no one could enter a 5-km buffer zone around their island, which was already out of bounds.
 - Between 1998 and 2004, when the Jarawa started to respond to the state, all government hospitals bordering their reserve opened special wards to treat them for infections.
 - In 2014, the A&N administration announced a change of policy from “hands off” to “hands off but eyes on” to protect the Sentinelese.

What are the issues with government’s measure?

- In recent years, the Andaman Chamber of Commerce and Industry and the Andaman Association of Tour Operators have pressed to have the RAP restrictions relaxed.
- In 2018, the Home Ministry dropped the RAP requirement for visiting 29 inhabited islands until 2022.
- Even though “separate approvals continue to be required for visiting Reserve Forests, Wildlife Sanctuaries and Tribal Reserves.
- But this move compromised the safety of the tribes and ecology of the islands.
- Following this the UT Administration clarified that Indian nationals would continue to require a pass issued by the Deputy Commissioner for entering a tribal reserve.
- Apart from this foreigners would need prior approval from the Principal Secretary (Tribal Welfare), from various instances it is found that these rules are being compromised.

What actions are needed in this regard?

- Recent tragic death of American missionary underlines the need to re-examine security and tighten vigil around North Sentinel Island.
- While the “island effect” may eventually wipe out the tiny tribal populations in the archipelago, allowing their sanctuaries to be invaded by outsiders will only hasten that process.
- Thus it is the duty of the Indian state “to protect them in their own environment and in their own circumstances”.

3.5 State of Adivasis in Chhattisgarh and Madhya Pradesh

What is the issue?

Despite a significant Adivasi population, the states of Chhattisgarh and Madhya Pradesh fail to give the needed attention to the communities.

What is the concern?

- Chhattisgarh and Madhya Pradesh are among the four Indian states (other than North-eastern states) with more than 20% Adivasi population.
- Chhattisgarh, in fact, has an Adivasi population of more than 30%.
- However, the Scheduled Tribes (STs) have hardly found a mention in the election campaigns in the two states.
- Along with the Muslims, the Adivasis seem to be the main losers in “New India”.

How is Adivasis' present condition?

- In both states, the Adivasis lag behind other social groups and are losing ground, economically and educationally.
- **Income** - The India Human Development Survey, in 2011-12, highlights their backwardness.
- The annual per capita income of the STs in Chhattisgarh represented 51% of the per capita income of the non-STs.
- This is a significant decrease from 2004-2005, when this proportion was 68%.
- In Madhya Pradesh, this proportion has fallen from 65 to 55%.
- Another such state is Gujarat where STs’ annual per capita income represents only 35% of that of the others.
- Also, in all three states, STs are poorer than SCs (Scheduled Castes).
- In Gujarat, their per capita income is 45% of that of SCs; in Chhattisgarh, 58% and Madhya Pradesh, 75%.

- **Education** - The appalling socio-economic condition of the Adivasis is a reflection of their lack of education.
- Only 1.7% of STs in the two states are graduates.
- Data suggests that quotas are not being filled in the university system as well as in the public sector.
- **Economy** - The economic situation of the Adivasis is, in fact, closely related to their under-representation among salaried people.
- In Chhattisgarh, only 6.2% of Adivasis are salaried.
- In MP, only 3.5% were salaried in 2011-12, compared to 4.9% in 2004-05.
- 34% of Adivasis in Chhattisgarh and 46% in MP are "labourers", which means that they till the land of others.
- **Political representation** of Adivasis is also not in proportion to their population in the two states.
- **Vulnerability** - According to the Statistical Profile of STs in India (2013), 15% of the Adivasis in the country live in MP.
- But according to the Crime Bureau, more than 20% of the crimes against STs are committed in the state, including 40% of the murders.

How are they in other states?

- The fortunes of the STs in Chhattisgarh and MP as well as in Gujarat stand in stark contrast to their conditions in South India.
- This is not because South Indian states are richer, but because they are more egalitarian.
- In Karnataka, in 2011-12, the annual per capita income of STs represents 80% of that of the other groups, up from 62% in 2004-05.
- In undivided Andhra Pradesh, it has jumped from 76% to 86% in the same period.
- In both states, the annual per capita income of STs is either equivalent to (Andhra) or more (Karnataka) than that of SCs, and even of Muslims.
- Education is a key reason for this, as the percentage of graduates among the Adivasis is 2.6% in Andhra and 3.4% in Karnataka.
- These are proportions equal to that of SCs and superior to that of Muslims.

How are their forest rights conditions?

- In both states, the Forest Rights Act (FRA), that provides legal rights to Adivasis over their forestlands, has not been fully implemented.
- More than 40% of them operate "marginal holdings" and their holdings are shrinking.
- MP has the largest forest cover in the country, but Adivasis here have found it very difficult to obtain land titles.
- More than 60% of the forest rights' claims in the state have been dismissed.
- Also, FRA allows for a maximum claim of four hectares (ha).
- But the average size of the land distributed under the act in MP is about 1.45 ha.
- In Chhattisgarh, Adivasis have filed more than 8,55,000 claims over land since 2006, but 53% of this has been rejected.
- The average land distributed here is a mere 0.85 hectare, while the Adivasis are entitled to 4 ha.
- In a contravention of the spirit of the FRA, Section 165 of the Chhattisgarh Land Code Act has been amended.
- This is to facilitate the acquisition of tribal land by the government.
- Given their proportion, social justice and inclusiveness concerns, it is fair that the governments take note of Adivasi development and empowerment seriously.

4. GOVERNANCE

4.1 SC ruling on Aravalli Illegal Mining

Why in news?

The Supreme Court Tuesday recently directed the Rajasthan government to stop illegal mining in Aravalli hills within 48 hours.

What does the ruling say?

- The court was hearing a matter related to illegal mining activities in Aravalli hills.
- The court said it was compelled to pass the order because Rajasthan has taken the issue "very lightly".



- It has referred to a central empowered committee report that 31 hills or hillocks have vanished in the state's Aravalli area.
- The Rajasthan government also told the court that out of 138 hills in Aravalli, 28 hills near the Delhi border have disappeared.
- Though Rajasthan was earning a royalty of around Rs 5,000 crore from mining activities in the region, it cannot endanger the lives of lakhs of people in the National Capital Region as the disappearance of the hills may lead to an increase in pollution levels.
- Hence the bench directed the chief secretary of Rajasthan to file an affidavit regarding compliance of its order.
- These remarks made by the Supreme Court are startling enough to merit serious consideration and appropriate remedial action.

What are the other issues surrounding Aravalli?

- The Forest Survey of India (FSI) reported continued illegal mining at more than 3,200 sites in Aravalli.
- The linking of disappearance of the hills and the rising pollution levels in Delhi is a telling comment on the state of the environment, which is coming at a time when the National Capital Region (NCR) is reeling from air pollution and is struggling hard to combat it.
- Aravalli arrests the eastward march of the Thar desert, thereby minimising the threat of desertification to the National Capital Region (NCR).
- However, mining is not the only problem of this 692-km-long series of hills spanning parts of Delhi, Haryana, Rajasthan and Gujarat.
- Large-scale urbanisation and realty projects are also altering the geography and ecology of these hills, which serve as the natural lung for the thickly populated NCR, including Delhi and Gurugram.
- The degradation of the Aravallis on such a huge scale is also eroding its ability to act as a green barrier against the creep of the Thar desert towards the highly fertile plains of Punjab, Haryana and Delhi.
- The Aravalli range also needs to be conserved because it is a rich biodiversity hotspot, hosting many rare species of flora and fauna.
- Several rivers and rivulets, including the Sabarmati, Luni, Chambal and Krishnavati, originate here.
- Most initiatives undertaken since the early 2000s to save these mountains from exploitation, have largely failed in achieving their objectives.
- The Centre had prohibited mining in this area in 2003 and the Supreme Court had ordered similar action in all the notified areas of the Aravallis in 2004.
- In spite of that, illegal mining and quarrying have continued to wreck these hills, with the Centre and state governments sitting by as silent observers.
- For instance, Haryana has been delaying designating the bulk of the Aravallis as forests on the pretext that there is no clear definition of forests.
- Though there is an ambiguity in this regard, the blame for this lies partly with the Supreme Court as well.
- In a 1996 judgment, the court had said that the term forest should be understood in its dictionary sense and should include all areas mentioned as forests in government records regardless of their present condition or ownership.
- The latest example of the official agencies' apathy towards forest conservation is the proposal of the NHAI to construct a six-lane road cutting across the Aravalli Biodiversity Park.
- The park has 115,000 important species of trees and shrubs and over 180 species of birds, animals, insects, reptiles and other fauna.
- It was developed jointly by ecologists, volunteers and the Municipal Corporation of Gurugram.
- Nature lovers of Delhi and Gurugram have been protesting the NHAI's move, demanding that the planned road be shifted to the periphery of the park rather than through it.
- The governments of the states having stakes in the Aravallis should forestall further degradation of these hills.
- Only then the ecology of this vital string of mountains and the human and environmental health of the NCR will be protected.

4.2 Reforms on MSME's

Why in news?

Union government has announced a package of 12 initiatives for Micro, Small and Medium (MSME) sector.



What were the issues faced by MSME?

- Over the past two financial years, the MSME sector has suffered considerably by back-to-back policy shocks demonetization (in FY17).
- The introduction of the goods and services tax (in FY18) both of which led to a sharp reduction in incomes in this sector.
- The ongoing crisis in the country's non-banking financial companies sector, triggered by the weakness in IL&FS, has further restricted the flow of credit to the MSMEs.
- In this context government has introduced new reforms to assist this crucial sector of the economy to achieve its potential.

What is government's plan on MSMEs?

- Union government measures are aimed at not only boosting credit availability to the beleaguered sector but also making it easier for them to conduct business.
- For providing quick and fast relief from the liquidity crunch, the PM announced the countrywide launch of a web portal to sanction loans of up to Rs 10 million in just 59 minutes.
- In the first phase, the government will target 78 MSME clusters and officials from five public sector banks will be stationed in these locations to ease the process of the loans.
- Further, a 2 per cent interest subvention will be provided on incremental and new loans to those MSMEs that have already registered for the GST.
- The package also provides an increase in interest rebate for exporters who receive loans in pre- and post-shipment periods.
- Besides easier credit, the package focused on improving business viability by asking all public-sector undertakings (PSUs) to henceforth buy 25 per cent of their inputs from MSMEs, as against 20 per cent earlier.
- Similarly, all public-sector companies and corporates with a turnover exceeding Rs 5 billion have to mandatorily register on the Trade Receivables Electronic Discounting System portal a move that will enable entrepreneurs to access credit from banks, based on their upcoming receivables.
- Government also announced a simplification of procedures with respect to seeking environmental clearances, inspections and filing returns.
- An Ordinance to amend the Companies Act has been approved as well to reduce harassment and obviate unnecessary litigation.

What lies ahead?

- Without a doubt, these measures would go a long way in helping the MSME sector, however there are valid reasons to be cautious.
- These measures have the backing of the PMO that a focused monitoring of the government's reach-out to small businesses across 100 districts in the next 100 days.
- Due to this officials may feel compelled to show short-term results while ignoring potentially adverse long-term consequences.
- For instance, in the zeal to offer more and quick loans to MSMEs, efforts must be made to ensure that credit discipline does not become a casualty.

5. HEALTH

5.1 Concerns in polio eradication

What is the issue?

Though the world is inching towards eradicating polio, vaccination in itself has become the main source of polio paralysis in the world.

What is a Vaccine-derived polio virus?

- Inactivated polio vaccine (IPV) consists of killed poliovirus strains of all three poliovirus types and it produces antibodies in the blood to all three types of poliovirus.
- In the event of infection, these antibodies prevent the spread of the virus to the central nervous system and protect against paralysis.
- On the other hand, Oral polio vaccine (OPV) contains a weakened vaccine-virus, activating an immune response in the body.
- When a child is immunized with OPV, the weakened vaccine-virus replicates in the intestine for a limited period, thereby developing immunity by building up antibodies.
- During this time, the vaccine-virus is also excreted.

- In areas of inadequate sanitation, this excreted vaccine-virus can spread in the immediate community, before eventually dying out.
- On rare occasions, if a population is seriously under-immunized, an excreted vaccine-virus can continue to circulate for an extended period of time.
- The longer it is allowed to survive, the more genetic changes it undergoes.
- In very rare instances, the vaccine-virus can genetically change into a form that can paralyse, which is known as a circulating vaccine-derived poliovirus (cVDPV).

What is the threat posed by VDPV?

- The world is inching towards eradicating polio, with wild polio virus strains reduced by 99.9% since 1988.
- But more children today are affected by the live, weakened virus contained in the oral polio vaccine (OPV) that is meant to protect them.
- While the wild-type virus has caused 22 and 25 polio cases in 2017 and 2018 respectively, in just two countries, VDPV was responsible for 96 and 75 polio cases in more countries during the same periods.
- According to The Lancet, vaccination (using OPV) has become the main source of polio paralysis in the world.

What is the case with India?

- While circulating VDPV strains are tracked, and outbreaks and cases are recorded and shared, little is known about vaccine-associated paralytic poliomyelitis (VAPP) cases in India.
- VAPP occurs when the virus turns virulent within the body of a recently vaccinated child and causes polio.
- The frequency of VAPP cases varies across countries.
- With high-income countries switching to the inactivated polio vaccine (IPV) that uses dead virus to immunise children, the VAPP burden is concentrated in low-income countries like India which continue to use the OPV.
- In spite of the WHO asking all countries using the OPV to include a continuous and effective system of surveillance to monitor the frequency of VAPP in 1982, India did not comply.
- WHO said the number of VAPP cases in India in 1999, 2000 and 2001 were 181, 129 and 109, respectively.
- The WHO had suggested a rate of 1 case of VAPP per million births and had estimated the annual global burden of VAPP to be approximately 120 cases in 2002.
- But the observed number of cases in India itself was 181 in 1999.
- This indicates that the actual risk is seven times the expected number and it is reasonable to assume that there would be 400-800 annual cases of VAPP globally.
- However, India justified that VAPP cases can be ignored as they are sporadic and pose little or no threat to others.
- This stand that VAPP cases are epidemiologically irrelevant is ethically problematic.
- Many member countries started to choose IPV over the OPV, mainly to avoid any risk of VAPP.
- Thus, the VAPP cases can be avoided once the government stops using the OPV to immunise children in India.

What are the concerns on both IPV and OPV?

- **On IPV** – The IPV produces humoral immunity (involving antibodies in body fluids) so the immunised child does not get paralysis, but it can't stop the circulation of wild polio viruses.
- India licensed the IPV only in 2006 but did not introduce it in routine immunisation.
- The reason for not switching over to the IPV is because global production was too low to meet India's demand.
- India is the largest cohort and it needs 48 million doses per year to immunise all children.
- The decision to manufacture the IPV in India was taken in 1988 and a company was eventually set up with technology transfer from France.
- However, the plan was shelved and the IPV production didn't meet India's demands.
- **On OPV** – India's goal was to eradicate polio, and the OPV was crucial for that.
- However, the primary objective of polio vaccination is to prevent the disease, which the OPV failed to achieve fully.
- The OPV was used for eradicating purposes but without fully protecting the children.
- Also, parents were obliged to accept the OPV and face the consequences of VAPP as well as VDPV.
- Despite giving several doses, the OPV doesn't fully protect the child.
- When a vaccine is provided, it must be ensured that the child doesn't get polio and only the IPV can do that.

- Hence, demands are being raised to **use both** the IPV and the OPV.

What should be done?

- It is easier to administer the OPV than the IPV and the cost per dose of OPV is also lower than that of the IPV.
- However, the OPV fared poorly on two important counts, namely safety and efficacy.
- Administering the OPV was easier than the IPV but no cost-benefit analysis was done before choosing the OPV.
- While high-income countries preferred the IPV, India and other low-income countries continued to rely on the OPV.
- The IPV is essential for post wild-type polio virus eradication, to get rid of VDPV and VAPP.
- The globally synchronised switch from trivalent to bivalent OPV in mid-2016 was accompanied by administering a single dose of the IPV prior to administering the OPV.
- A single dose of the IPV primes the immune system and the antibodies against the polio virus, seen in more than 90% of immunised infants.
- Thus India needs to monitor if the use of a single dose of IPV followed by immunisation using bivalent OPV has led to a reduction in the number of VAPP cases in the future.

5.2 CCI report on Healthcare

Why in news?

The Competition Commission of India released a report titled 'Making markets affordable for healthcare' recently.

What are the highlights of the report?

- Role of intermediaries in drug pricing** - The unreasonably high trade margin is a major factor for high drug prices in India.
- Such margins are set by self regulated trade associations (Intermediaries)
- They control the entire drug distribution system in a manner that reduces competition.
- Thus efficient and wider public procurement and distribution of essential drugs should be done to circumvent these challenges.
- Electronic trading of drugs, with appropriate regulatory safeguards, needs to be promoted to bring transparency and spur price competition.
- Quality perception**– Generic medicines are those which contain the same active ingredient (the ingredient which acts to cure the condition the medicine is used to treat) in the same quantity as a brand-name medicine.
- Generic drugs are seen as a key competitive force against patent-expired brands marketed at monopoly prices.
- However, in India, the pharmaceutical market is dominated by "branded generics" that limit generic-induced price competition.
- A branded generic is an off-patented drug that is re-released into the market with a different branded name.
- Originator manufacturer do this because they want to continue to profit on their customers who realize their medication has come off patent and that there are cheaper generics available.
- Branded generic drugs enjoy a price premium owing to perceived quality assurance that comes with the brand.
- It also allows an artificial product differentiation in the market, which while offers no therapeutic difference, allows firms to extract rents.
- A regulatory apparatus to address the issue of quality perception by ensuring consistent application of statutory quality control measures and better regulatory compliance is needed.
- Regulation and competition** - Due to multiple regulators governing the pharmaceutical sector at the state and centre levels, implementation of regulations is not uniform across the country.
- This has resulted in multiple standards of the same product and different levels of regulatory compliance requirements.
- A mechanism should be devised by CDSCO to harmonise the processes followed by state licencing authorities to ensure uniformity in interpretation and implementation.
- Also, approvals of new drugs be made time-bound along with publication of detailed guidelines governing each stage of the approval process.
- A one-company, one-drug, one-brand name price policy is also being advocated.
- Vertical arrangements in healthcare services** - An incentive-based referral system is pervading the healthcare landscape in India.

- Thus, periodic validated data by hospitals relating to mortality rate, infection rate, number of procedures etc, should be issued which could help patients make informed choice.
- Regulation of in-house pharmacies of super specialty hospitals is recommended, since they are completely insulated from competition as inpatients are typically not allowed to purchase any product from outside pharmacies.
- All accredited diagnostic labs meet the same quality standards in terms of infrastructure, equipment and skilled manpower to ensure the same degree of reliability and accuracy of test results across labs.
- Lack of portability constrains patients in switching from one hospital to another and creates a lock-in effect.
- Portability of patient data can help ensure that a patient is no longer locked into data silos and do not bear additional cost for switching medical services and that doctors and hospitals can have timely access to patient data.
- Hence, a regulatory framework ensuring portability of patient data, treatment record and diagnostic reports between hospitals should be made.

What are the concerns?

- The report pointed out the enormous differences between market prices and the price points at which States such as Tamil Nadu and Rajasthan provide the same drugs procured directly from the manufacturers.
- But it does not look into why other States have not gone the Rajasthan and Tamil Nadu way.
- Its suggestion that e-pharmacies can be a solution to spur price competition is not convincing.
- This is because online purchase of medicines is hardly an option for majority of the people and there are also information asymmetry surrounding it.
- It focusses only on margins on drug trade, while the high margins on drug manufacture, as in the case of stents recently, is ignored.
- Also, the “one-company-one drug-one brand name-one price” policy will put an unreasonable restriction on business freedom and will lead to monopoly in the pharmaceutical sector.

What should be done?

- The issue of pricing of health services, with doctors, pharmacies, nursing homes and diagnostic centres acting in collusion, dis-empowers the patient.
- For this, the report’s recommendation of a “strong regulatory framework” to allow purchase of standardised products from the open market is not enough.
- The recent amendment to the Karnataka Private Medical Establishments Act provides a better option.
- The law seeks to lay down ceiling rates for procedures which when read along with NPPA ceilings for products, can protect patients.
- Public procurement of drugs constitutes barely 10% of the pharma sector’s annual turnover of over ₹2 lakh crore (\$33 billion).
- The absence of political will to commit the required resources, and the role of vested interests, is only too obvious.
- Around 60% of inpatient services are provided by the private sector with no insurance cover to boot and hence serious health episodes drive innumerable families into poverty and debt.
- Thus the State should build hospitals and medical colleges without relying wholly on insurance schemes such as Ayushman Bharat.
- Instead of merely pushing PPPs in district hospitals, the government should expand its footprint in healthcare holistically.

5.3 World Malaria Report 2018 - Odisha's Progress

Why in news?

Odisha's performance pushed down India's malaria count for 2017 according to World Health Organization's World Malaria Report 2018.

What are the highlights of the report?

- As per the report, in 2017, 11 countries accounted for roughly 70% of estimated malaria cases and deaths globally.
- Apart from India, 10 of these countries are in sub-Saharan Africa.
- Among these countries, only India reported progress in reducing its malaria cases in 2017 compared to 2016.
- By 2017, India accounted for 4% of the global burden of malaria morbidity.

- It accounted for 52% of deaths outside of the WHO African Region, despite “impressive gains”.
- India registered three million fewer cases which is a fall of 24% in cases from 2016 to 2017.
- It is largely due to substantial declines of the disease in the highly malarious state of Odisha.
- Notably, Odisha is home to approximately 40% of all malaria cases in the country.

What were Odisha's notable measures?

- Malaria cases in Odisha have been coming down steadily since 2003, with a marked reduction since 2008.
- The number of cases in July-December 2017 period fell by nearly 50%, compared to the same period in 2016.
- The report commends the Odisha government for its rigorous training to detect, treat and also to prevent malaria outbreaks.
- The state did pioneering effort to upgrade skills of health workers, and the Self Help Group by its #MissionShakti initiative.
- A notable aspect of Odisha's approach is its network of Accredited Social Health Activists or ASHAs.
- They served as front-line workers to deliver essential malaria services across the state, particularly in rural and remote areas.
- Success factors include rejuvenated political commitment and strengthened technical leadership.
- Efforts focused on prioritizing the right mix of vector control measures and increased levels of domestic funding to back them.
- Large-scale distribution of insecticide-treated bednets was taken up.
- Also, strategies to encourage health-seeking behaviour have paid off in the state.

What are the concerns to be addressed?

- One issue that requires monitoring in India is resistance to combination therapy.
- Recent reports indicate that some patients in West Bengal became resistant to the treatment protocol used for the falciparum parasite.
- Falciparum parasite causes debilitating cerebral malaria and leads to a high number of deaths.
- Emerging resistance to treatment has been reported in Myanmar, among other countries in this belt.
- So there is a need for a coordinated approach to rid southern Asia of malaria.
- WHO said in a recent assessment that the treatment policy was changed to another efficacious set of combination drugs in some north-eastern States.
- Nevertheless, the phenomenon requires close monitoring.

What lies ahead?

- India has suffered from a major burden of malaria for decades, with high levels of morbidity and death.
- But the report noted that India's record offered great promise in the quest to cut the number of new cases and deaths.
- At this rate, malaria can be reduced globally by at least 40% by 2020, and the epidemic could end by 2030.
- Eliminating malaria requires an integrated approach, involving states with a higher burden of the disease - Chhattisgarh, Jharkhand and West Bengal.
- Odisha's positive trend should encourage authorities in other states too to further cut disease transmission.
- Its experience with using public health education as a tool and reaching out to remote populations with advice needs to be replicated.

6. INDIA AND ITS NEIGHBOURHOOD

6.1 Approval on Kartarpur Corridor

Why in news?

The Cabinet approved the development of a corridor to enable smooth passage of pilgrims seeking to visit Pakistan's Kartarpur Sahib.

What is the Kartarpur corridor?

- **Kartarpur Sahib** - The gurdwara in Kartarpur stands on the bank of River Ravi, about 120 km northeast of Lahore.

- Kartarpur Sahib is revered as Guru Nanak's final resting place.
- It was here that Guru Nanak assembled a Sikh community and lived for 18 years until his death in 1539.
- **Corridor** - It is a long-standing demand from the Sikh community for easy access to the revered shrine across the border.
- The Kartarpur corridor was first proposed in 1999 when PM Atal Bihari Vajpayee took a bus ride to Lahore.
- It is now conceived as a visa-free corridor for Sikhs from India to Pakistan's Kartarpur Sahib.
- It will be developed from Dera Baba Nanak village in Gurdaspur, Punjab to Gurdwara Darbar Sahib, Kartarpur.
- The length of the corridor is about 4 km, 2 km on either side of the International Border.



How did the decision come about?

- Few months back, Punjab minister Navjot Singh Sidhu attended the swearing-in ceremony of PM Imran Khan in Pakistan.
- Pakistan's Army Chief General had then told Sidhu that Pakistan hoped to build the corridor.
- But the Indian government refused to respond to this informal proposal.
- However, the Punjab government moved a resolution in the Punjab Assembly.
- It adopted unanimously, seeking an uninterrupted corridor from Dera Baba Nanak to Kartarpur Sahib.
- Indian government has now announced that it would develop a corridor up to the International Border.
- The government also asked Pakistan to develop a corridor with suitable facilities in its territory.
- It comes at the time of the start of 550th birth anniversary year of Guru Nanak.
- The Pakistan government responded that it has already decided to open the corridor for the anniversary.

What is India's rationale?

- The announcements were a coordinated step by the two countries, despite the big chill in the relationship.
- India decided to go ahead because it did not want to be upstaged by Pakistan, which proposed it first.
- This is despite the misgivings in the security establishment with the Kartarpur corridor.
- As, it may be another attempt by Pakistan to woo the Sikh community, aimed eventually at creating unrest in Punjab.
- India could not be seen denying its Sikh community what Pakistan was ready to roll out for it.
- In all, the corridor is seen to be a big leap forward for people-to-people relations.
- It will facilitate easier access and smooth passage of Indian pilgrims throughout the year.

What next?

- Pilgrimages between India and Pakistan are governed by the 1974 Protocol on Visits to Religious Shrines.
- It includes a list of shrines in Pakistan and India open for visitors from the other country, and for which visas are required.
- The Kartarpur Corridor, which will provide visa-free access from India to the shrine inside Pakistan, may need a separate treaty.
- Also, officials from India and Pakistan will meet soon to discuss the logistics of the corridor and point of border crossing.

6.2 India's Shifting Position on Taliban

What is the issue?

- India sent two former diplomats as "non-official" participants at the recent "Moscow format" multilateral meeting that included Taliban delegates.

- Indian government-nominated representatives sharing the table with a Taliban delegation for the first time is notable.

What is Afghanistan's stance?

- Afghanistan did not send delegates from its foreign ministry, but from the Afghan High Peace Council (HPC).
- They were joined by the Ambassador to Russia.
- The HPC is a government-appointed forum tasked with the peace and reconciliation process.
- India is understood to have consulted Kabul about the level of its participation.
- The Indian representatives did not make a statement at the meeting.

What was India's traditional position?

- India was among the countries that had refused to recognise the Taliban regime of 1996-2001.
- India watched Taliban's growth with concern, assessing early that it was being driven by Pakistan's army and the ISI.
- The Kandahar hijack of Indian Airlines flight IC-814 forced India to negotiate.
- At other times, it supported anti-Taliban forces in Afghanistan.
- Throughout the 1990s, India gave military and financial assistance to the Northern Alliance fighting the Pakistan-sponsored Taliban regime in Afghanistan.
- Meanwhile the 9/11 attacks and the US crackdown leading to the fall of the Taliban regime took place.
- When the Taliban re-emerged in 2006-07 to once again challenge US forces, India maintained it was not going to talk with the Taliban.

What was the further development?

- The Taliban grew in strength, and the US decided to withdraw troops by 2009.
- So the Afghan government reached out to the Taliban with a peace and reconciliation process.
- In the International Conference on Afghanistan in London in 2010, India made a quiet shift.
- It said it is for the elected Afghanistan government to draw the "red lines" - the terms for negotiating with the Taliban.
- [The red lines are the rights of the people, especially women's rights, the right to education, the democratic process all of which are enshrined in constitution.
- The "red lines" had defined the Kabul-Taliban negotiations and these will not be compromised during the talks.]
- The Afghan government had stated that the Taliban must accept the Afghan Constitution.
- It called for it to renounce violence and sever all ties with al-Qaeda and other terrorist organisations.
- This was endorsed during the International Conference. That was the first diplomatic opening.
- Although India would not directly talk to Taliban, this shift meant it was approving the outreach if the Taliban adhered to these red lines.

What is the significance of the recent move?

- Over the last couple of years, the US, China and Russia brokered reconciliation and peace talks between the Afghan government and the Taliban.
- With this, India stopped public articulation and insisting on the "red lines".
- It just insisted that the peace process be "Afghan-led" and "Afghan-owned".
- But it is felt that the current efforts as the Moscow format meeting are not being "Afghan-led"; Russians or the Americans are taking the lead.
- India's participation, however, is crucial, even though it is at a non-official level.

6.3 Geopolitical Importance of Island States

What is the issue?

- Varied but simultaneous developments took place in the recent period in different corners of the Indo-Pacific.
- They are indicative of the renewed geopolitical importance of the island states.

Why are island states significant?

- At the dawn of the modern maritime age four centuries ago, control of critically-located islands became important.
- It was part of the rivalry between European powers in the Atlantic and the Indo-Pacific.



- Islands helped the replenishment of supplies, positioning of troops and ammunition, and the host ship to do repair and maintenance.
- Island dominance became the key to securing the sea lines of communication.
- The Anglo-American maritime dominance over the last two centuries helped limit the contestation for the islands.
- An exception was imperial Japan's challenge in the decades before the Second World War.
- Today, the rise of China has brought the island states back to the centre stage of major power politics.

What are the recent developments?

- **Maldives** - The Indian PM visited Maldives recently for the swearing-in of its new president Ibrahim Mohamed Solih.
- The visit underlined the renewed warmth in the relations between the two countries.
- Under Solih's predecessor, Abdulla Yameen, India's relations with the Maldives rapidly deteriorated.
- The contestation between India and China in the Maldives got intertwined with the democratic struggle of the opposition parties to end Yameen's autocracy.
- They kept demanding an Indian intervention as Yameen trampled over the parliament and judiciary, but Delhi held back.
- **Sri Lanka** - The intersection of Sino-Indian rivalry with domestic politics is also witnessed in the neighbouring Sri Lanka.
- The international community and India too was surprised at the recent decision of the Sri Lankan President to dismiss Prime Minister Ranil Wickremesinghe.
- India, the US and EU, emphasised the importance of due constitutional process and supported parliament test.
- But the Chinese ambassador in Colombo was quick to show up at the newly-installed PM Rajapaksa's office to congratulate him.
- Notably, during the decade-long rule (2004-15) by Rajapaksa, Sri Lanka seemed to steadily move closer to China's orbit.
- Symbolising its influence, China won the strategic contracts to build the Colombo port city.
- It also got the contract for the construction of a new port at Hambantota in the southern part of the island.
- India, in turn, appeared to lose its historic primacy in the island state.
- **Papua New Guinea** - Further east, Papua New Guinea very recently hosted the forum for Asia-Pacific Economic Cooperation's annual summit.
- It brought leaders from 20-odd countries from America to China, Malaysia to Japan and Canada to Chile to this island state.
- Here too, there is rise in Chinese commercial and political presence in the last few years.
- There was also a speculation that China might be in quest of a military base in Papua New Guinea.
- So Australia and the US moved in to announce that they will fund the development of the port facilities.
- This would be developed in the Manus Island to the north-east of the main island.
- Notably, Imperial Japan had occupied Manus and built a military base there in 1942.
- Australia also joined the US, Japan and New Zealand in unveiling a project to provide electricity to 70% of the island population by 2030.
- But countries have largely failed to anticipate the intensity of China's power projection.

How does the future look for the Indo-Pacific?

- Contestation for influence in the island states of the Indo-Pacific has just begun.
- The European colonial powers could easily prevail over natives of the strategic island territories.
- But unlike then, in Indo-Pacific, today's major powers have to deal with the more complex domestic politics of the island nations.
- The ruling regimes in these islands have agency and the capacity to play one power against the other.

7. BILATERAL RELATIONS

7.1 Indo-Japan relations

Why in news?

India and Japan held 13th India-Japan annual summit recently.

What are the important outcomes?

- The two countries decided to enhance cooperation in defence and other strategic areas.
- They have signed five pacts covering defence exchanges, cooperation in clean energy, roads and highways, healthcare and women while vowing to take their relationship to newer level.
- Both sides reviewed the progress of several initiatives such as enhancing connectivity and ecological management in India's north-eastern region through the India-Japan Act East Forum.
- They also reviewed the progress made on the Mumbai-Ahmedabad high-speed railway project.
- They stressed the need to work together for a rules-based and inclusive world order.
- Japan was also told that India was awaiting the investments with a 'red carpet' and not 'red tape' as rules and procedures have been eased by his government.
- Japan promised 3.5 trillion Yen (USD 35 billion or 2,10,000 crore) to India through public and private funding over the five years for various works, including building of smart cities and clean-up of the Ganga river.
- A pact was signed under which Varanasi would be developed on the pattern of Kyoto 'smart city' with the help of Japan.
- Japan also announced that as an example of Indo-Japan Cooperation, Tokyo will help India in providing financial, technical and operational support to introduce Bullet trains.
- Japan lifted ban on six Indian entities including Hindustan Aeronautics Limited (HAL) which had been imposed in the aftermath of 1998 nuclear tests.
- They also decided to speed up negotiations on civil nuclear deal that could not be concluded now.
- India reiterated that Japan was the cornerstone of India's Look East policy, while Japan expressed its determination towards advancing the "new era in India-Japan relations".
- While the two countries signed several agreements, the two issues worthy of highlighting pertain to economic and security matters.

What is the outcome in the economic sphere?

- The first big development was the signing of a \$75 billion currency-swap agreement, one of the largest swap arrangements in the world.
- A **currency-swap agreement** allows India to avail itself of \$75 billion from Japan in exchange for rupees in case the need arises.
- This arrangement makes eminent sense since the rupee has lost around 13% of its value against the dollar this year.
- Also, the Indian rupee has been the worst-performing Asian currency.
- Rising interest rates in the United States, higher crude oil prices, and a widening current account deficit, which is nearing the crucial level of 3% of GDP, have put the rupee under tremendous pressure.
- The Reserve Bank of India has been intervening in the markets to ensure that the rupee's fall is not any more precipitous.
- But that has meant that India has used its foreign exchange reserves.
- The on-tap availability of \$75 billion thus not only calms the frayed nerves in the markets but also makes it decidedly cheaper for Indian businesses to borrow funds.
- To be sure, this is not the first time India has had such an agreement with Japan.
- In 2008 and 2013, Indian signed up for similar swaps valued at \$3 billion and \$50 billion, respectively.
- The bilateral trade between the two countries has been far below expectations despite the two countries having a comprehensive economic partnership agreement(**CEPA**).
- The swap arrangement means the bilateral trade will likely get a boost, especially as it reduces its dependence on the dollar.

What are the outcomes in the security sphere?

- Both countries reaffirmed their desire to further deepen bilateral security and defence cooperation and institute Foreign and Defence Ministerial Dialogue (2+2).

- At present, India has this arrangement only with the US.
- This enhances the strategic dimension of the relationship between India and Japan.
- Building on the existing maritime security cooperation, the Indian Army is now conducting its first joint exercise with Japan's Self-Defence Forces.
- Cooperative research in the area of the unmanned ground vehicle (UGV) and robotics was also announced.
- There was encouragement for technological collaboration between the respective agencies of the two countries in the Joint Lunar Polar Exploration Mission.
- While China was not mentioned explicitly anywhere in the joint statement, there is no guessing what the prime motivator for both India and Japan was.
- Thus the call for a "free and open Indo-Pacific" makes it clear that this partnership is aimed at countering the biggest regional power.

What are the concerns?

- The limitations of the relationship are glaring, wherein Bilateral annual trade now stands at a pitiable \$15 billion.
- However, Japan's trade with China despite troubled political relations is now close to \$300 billion.
- Though Japan heavily invested to develop the Mumbai-Delhi industrial and rail corridors, Progress has been painfully slow.
- The Dedicated Freight Corridor between the two cities is now barely half done, even after 13 years since it was announced.
- Also, the negotiations on the purchase of an amphibious aircraft have dragged on for nearly a decade.
- This points to a deepening systemic crisis in the hands of a politically strong and bureaucratically centralised government.
- Hence, if India can't change the way it works internally, it can't do much with even the most eager external partners like Japan.

7.2 Quad Talks in Singapore

Why in news?

India will hold the official level talks on the 'Quad' Asia-Pacific formation on the sidelines of the East Asia Summit in Singapore.

What are the prospects?

- The Quadrilateral Group consists of India, Australia, Japan and the U.S.
- The Quad has a shared objective to ensure and support a "free, open and prosperous" Indo-Pacific region.
- The present meeting comes a year after it was launched in Manila during the ASEAN.
- The discussion will provide an opportunity to exchange ideas about the future of the Asia-Pacific region.
- The meeting is likely to focus on infrastructure projects and on maritime security schemes in the region.
- Building humanitarian disaster response mechanisms is also expected to be on the agenda.
- **Japan** - India and Japan have recently announced a series of joint projects.
- This is in terms of what they have called the "Asia-Africa growth corridor" in the Indo-Pacific region.
- Among the projects that they will work together on are
 - i. the Jamuna Railway bridge in Bangladesh
 - ii. other bridges in northeastern States of India
 - iii. housing, school and electricity projects in Rohingya areas in Myanmar
 - iv. an LNG plant in Sri Lanka
 - v. a cancer hospital in Kenya
- **Australia** - Australia has unveiled an ambitious \$2 billion project to fund infrastructure.
- There are plans to build maritime and military infrastructure in the Pacific region, where it is willing to cooperate with other Quad members.
- **Others** - The four countries are expected to talk about other regional developments.
- These include Maldives elections, the collapse of the government in Sri Lanka and the latest developments in North Korea.

What are the challenges ahead?

- **Objective** - Despite the potential for cooperation, the Quad remains a mechanism without a defined strategic mission.
- In 2007, when the grouping was first formed following cooperation after the 2004 tsunami, the idea was to better coordinate maritime capabilities for disaster situations.
- When revived in 2017, the grouping seemed to have become a counter to China's growing inroads into the region.
- So Quad members still face the challenge of defining its common agenda.
- **Region** - A common definition of the geographical area encompassed is yet to be found.
- The US sees itself and India as the extremes of the Indo-Pacific.
- On the other hand, India and Japan have included the oceans up to Africa in their definition.
- The entire focus on the Indo-Pacific makes the Quad a maritime, rather than land-based, grouping.
- This raises questions whether the cooperation extends to the Asia-Pacific and Eurasian regions.
- **Maritime** - Even on maritime exercises, there is a lack of concurrence.
- E.g. India has not admitted Australia in the Malabar exercises with the U.S. and Japan, despite requests from it.
- It is felt that it would be too early to discuss "militarising" the Quad.
- India has also resisted raising the level of talks from an official to the political level.
- India is the only member not in a treaty alliance with the other Quad countries which could possibly slow down progress.
- Given all, the outcome of the Singapore meet will be judged by the ability of the group to issue a joint declaration, unlike in the last two meets.

7.3 India-Vietnam Bilateral Relations

What is the issue?

- President Ram Nath Kovind chose Vietnam as the first Southeast Asian country to visit in his capacity as the President.
- It is essential, in this context, to assess the further prospects in India-Vietnam relations.

How has Vietnam's progress been?

- Since its Doi Moi policy (domestic political and economic renewal campaign) in 1986, Vietnam has made dramatic strides.
- Today it is a rapidly growing, regional economic giant, showing dynamism and pragmatism.
- Being an importer of agricultural products earlier, today it is a major exporter.
- Agricultural competence has furthered its entry into the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).
- CPTPP accounts for nearly 14% of the global GDP and thus boosts Vietnam's economic growth.

How prospective is India-Vietnam relations?

- One of the core areas of Mr. Kovind's visit focussed on furthering cooperation in agriculture and innovation-based sectors.
- This is expected to further the potential for increasing bilateral trade to \$15 billion by 2020.
- **Health** - Vietnam has highlighted, in 2016, the importance of linking economic growth to universal health care.
- By this, 80% population would be covered by health insurance.
- India too, since 2011, has been focussing on the need to deliver accessible and affordable health insurance to weaker sections.
- Certainly, health care is an area of potential convergence for both Vietnam and India.
- Also, with India moving closer to signing the Regional Comprehensive Economic Partnership, it can get to the forefront of the services sector globally.
- So in this backdrop too, convergence in health care through joint public-private partnership agreements can be explored.
- **Foreign policy** - Internationally, Vietnam's foreign policy is characterised by 'multidirectionalism'.

- It addresses regional asymmetries in power balance by engaging across a broad spectrum of states to achieve its interests.
- Increasingly, this asymmetrical power structure in the region counteracts the rise of China.
- In turn, by bringing regional and extra-regional states together to address the shifts, it offers scope for India too.
- Within this context, Vietnam even normalised relations with the U.S., its former opponent.
- **Security** - Today, there is increasing commonality of security concerns between Vietnam and its ASEAN partners.
- This applies with Australia, India, Japan and the U.S. as well.
- This is particularly in the areas of maritime security and adherence to the United Nations Convention on the Law of the Sea.
- In this context, Asian leaders have endorsed the idea of Indo-Asia-Pacific.
- So finding compatibility between the 'Indo-Asia-Pacific' and the U.S. driven 'Indo-Pacific' necessitates a nuanced approach.
- Regional concerns of ASEAN centrality can be addressed, as well as the diverse approaches to maintaining regional stability.
- In pursuance of this, India and Vietnam have planned a bilateral level maritime security dialogue in early 2019.
- **Sub-regionalism** - Vietnam has focussed on both sub-regionalism and regionalism as the core of its priorities.
- This has helped mitigate fears of smaller members of ASEAN on centrifugal forces of China's rise.
- India too looks at both sub-regionalism and regionalism as priority avenues to pursue its foreign policy.
- The India-Vietnam Joint Statement of March 2018 reiterates the focus given to sub-regionalism and the Mekong Ganga Cooperation framework.
- However, another area is emerging, in the CLV (Cambodia-Laos-Vietnam) growth triangle sub-regional cooperation.
- So India and Vietnam can jointly explore the potential for enhancing capacity building and providing technical assistance and training within this sub-regional grouping.

7.4 U.S. sanction waiver on Chabahar port

Why in news?

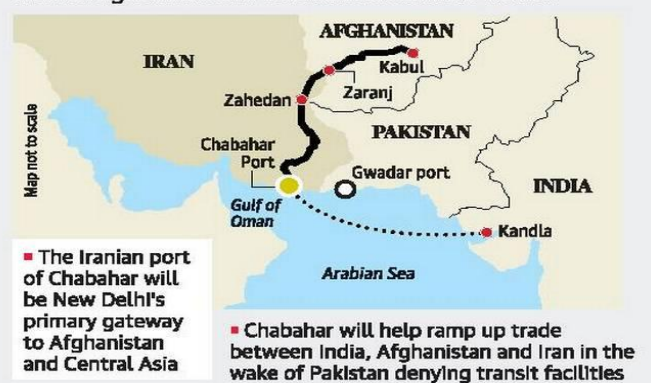
The US government recently announced a waiver to its sanctions on Indian investments in Chabahar port.

How does it favour Afghanistan?

- India signed a trilateral connectivity deal in May 2016 with Iran and Afghanistan that allows it to bypass Pakistan and reach Europe and Central Asia.
- The hub of this connectivity agreement is the Chabahar Port, whose management was given to India for 18 months.
- Chabahar port represents the shortest route for Afghanistan to the sea.
- For Afghan traders, it is shorter than both Iran's Bandar Abbas port and Pakistan's Gwadar port.
- Afghan businessmen will save 50% of their shipping costs when they use Chabahar.
- India's first shipment of wheat in October 2017 through Chabahar port is an initial outcome in this regard.
- Thus, Afghanistan view Chabahar as an opportunity to liberate themselves from the control that Pakistan exercises on their movement and their businesses.
- Nearly 165 out of 500 Afghan companies are registered by the Chabahar Free Zone authority.
- Afghanistan is also planning to launch their own shipping line that will fly their national flag between Indian ports and Chabahar.

Geo-strategic push

The consignment of wheat is the first of six shipments to be sent to Afghanistan over the next few months via Iran



What are the concerns?

- **Sanctions list** - Some of the Iranian companies in Chabahar are managed by Islamic Revolutionary Guards that are being accused of spreading terror in West Asia.
- Hence, it is not clear how India will work with Iranian companies that are already in the sanction list of US.
- **Finance** - The Indian government was also facing major banking hurdles in funding its infrastructural works.
- It was trying to explore a rupee-riyal arrangement to hasten the port's progress as well pay for its oil purchases.
- Under this system, India and Iran did not trade in international currencies like USD and preferred to trade in their local currencies.
- **Communication** - Also, the US sanctions would prevent the use of SWIFT communication systems, which allows inter-bank transfer of funds.
- Hence India was exploring to become part of the special purpose vehicle that the EU was creating to deal with Iran that allowed trading in euros, yuan and rouble.

What are the takeaways?

- The port gives India a unique opportunity to capitalise on growing exports from current levels and embarking upon a new era of trade diplomacy with Afghanistan.
- The waiver also gives Iran more options to deal with the stringent sanctions that have been imposed by the US government after it withdrew from the P5+1 nuclear deal.

7.5 India's Non-Alignment in Multipolar World

What is the issue?

- United States agreed to grant India a special waiver from the trade sanctions on Iran.
- This instance is seen as a victory for India's skillful policy of non-alignment in the times of multipolar world.

What is India's deft diplomacy about?

- Indian foreign policy has been primarily non-aligned in character.
- During the Cold War, when the international system was largely bipolar in nature, India's skillful diplomacy made sure that it doesn't get trapped into the bipolar geopolitics.
- As a solution, the Non-Alignment Movement was conceptualized in which India was one of the leaders.
- India has always refrained from choosing or aligning completely with one side or the other.
- This gave India a much-needed maneuvering capability to build strong ties with almost all major powers in the international system.
- For instance, recently both the US and Iran were looking for India's support during their tussle after the scrapping of the Iran Nuclear deal by the Trump administration. India for its part refused to choose sides.

What multipolar world expect from India?

- The international system today is vastly different from what it used to be back in the Cold War period.
- Post-Cold War, when the international system has become multipolar, the relevance of India's non-aligned credentials have come under question.
- The global community expects India to take strong stands on global issues (often third-party issues), and even choose sides if needed.
- The great powers like the US and Russia don't want India to have the luxury of maneuvering itself in global politics.

What is the significance of India's diplomacy?

- Indo-US diplomatic relations are in a tense situation due to India's refusal to bring down its Iranian oil imports to zero.
- Amidst of these tensions India managed to win its stand over the Iran's Chabahar port, by protecting its own sovereignty, Click [here](#) to know more.
- India has always carved out a middle path ('madhyam marg') for itself and has avoided getting into the 'Us vs Them' debate.
- This can be seen through many examples, be it choosing between the US and Russia, Israel and Palestine, or Saudi Arabia and Iran. India's track record has been to keep itself out of a position where it has to choose sides.

What are the doubts prevailing on India's diplomacy?



- When a country's power and reputation rises in the international order, the international community starts expecting differently from that state and wants it to assume greater responsibility.
- Till now, Indian diplomacy has been fairly successful in doing that but the question is for how long can India continue to move on this tried and tested path of deft diplomacy.
- The question about India's foreign policy framework is whether the path of non-alignment was taken out of a conscious 'choice' or out of 'necessity' to balance the bipolarity of the Cold War politics with the US on one side and Soviet Union on the other.
- Many experts on international relations consider the non-theorization of non-alignment policy as a missed opportunity on India's part as it would have solidified the Indian foreign policy even more concretely as well as making it well-defined and nuanced.
- Apart from this the question before India's foreign policy makers is whether non-alignment is serving India's self-interests as the non-alignment policy was product of a particular context and time.

8. INETRATIONAL ISSUES

8.1 U.S. Proposal on Birthright citizenship

Why in news?

U.S. President said recently that he intends to issue an executive order that would end birth right citizenship for children born in the US to undocumented immigrants.

What is a birthright citizenship in US?

- Birthright citizenship in the United States is acquired by virtue of the circumstances of birth.
- It contrasts with citizenship acquired in other ways, for example by naturalization.
- The U.S. citizenship is automatically granted to any person born within and subject to the jurisdiction of the United States.
- This includes the territories of Puerto Rico, the Marianas (Guam and the Northern Mariana Islands), and the U.S. Virgin Islands.
- Birthright citizenship also applies to children born elsewhere in the world to U.S. citizens (with certain exceptions).

What was the basis of this decision?

- The U.S. proposed to strike down the right to citizenship decided only by the place of birth, derived from common law.
- The principle guarantees that a child born on US soil is automatically a full citizen, irrespective of the citizenship status of its parents.
- The decision seems to be determined to follow the trail blazed by India.
- In 2004, India abolished a similar provision in response to fears about mass immigration from Bangladesh.
- India is the only big country to take this step while the rest of the world supports birthright citizenship, though it may be conditional.
- With the exception of Chile and a few minor states, the Americas support unconditional birthright citizenship.
- The decision was taken at the backdrop of the assertion that birthright citizenship draws people to illegally enter the United States.
- However, all persons born or naturalized in the United States and subject to the jurisdiction thereof are citizens of the United States and of the State wherein they reside.
- It has long held that the phrase "under the jurisdiction thereof" extends citizenship to anyone born under U.S. territorial jurisdiction, including the children of immigrants.
- But some have recently claimed that undocumented immigrants are under the jurisdiction of foreign countries, rather than the United States, precluding their children from birthright U.S. citizenship.
- Recognising this, the U.S. President took a stand to end birthright citizenship to the children of undocumented migrants.
- However, such a move would significantly restructure U.S. immigration and constitutional law.

Is the move constitutional?

- The U.S. Constitution grants the power to regulate citizenship to Congress, not the president.
- Also, it grants only Congress the authority to establish rules for citizenship by naturalization.
- It grants birthright citizenship to all persons born on U.S. soil, meaning that any change would probably require a constitutional amendment.

- Also, the recent proposal seems an unprecedented grab for executive power by the president.
- It probably violates the intent of the framers of the constitution.
- There was a similar ruling in 1867 which stated that black Americans in U.S. could not hold birthright citizenship, effectively making citizenship a hereditary racial matter.
- However, the decision was overruled and the citizenship was granted to anyone born under U.S. jurisdiction.
- By linking citizenship status to parentage rather than birthplace now, the proposed executive order relies on similar legal reasoning.
- Also, any immigrant fell under the protection of the laws and police and courts of the United States was subject to the jurisdiction of the United States.
- Therefore, children of these immigrants were entitled to birthright citizenship, as are the children of undocumented immigrants born on U.S. soil today.

What should be done?

- Thousands of persons of English, Scotch, Irish, German, or other European parentage have always been considered and treated as citizens of the United States so far.
- Hence the decision will face legal challenges, since millions of citizens, the children of immigrants who were not citizens when they were born, would be disenfranchised by such a move.
- Also many of them would be found to be achievers, and could mount a successful class action against the proposal.
- The Supreme Court in U.S. had already upheld a watered-down version of the president's travel ban, initiated by executive order.
- That ruling gave wide leeway to interpret and enforce the nation's immigration laws.
- Hence, there is a chance that the court could affirm some or all of this executive order that reinterprets birthright citizenship law.
- But the message would have gone out nevertheless, that in the future, the US may not remain as bravely welcoming of outside talent as it has been.

8.2 Impact of US mid-term Elections

Why in news?

The Democratic Party has got majority in the House of Representatives, while the Republican Party increased its majority in the Senate during the recently held mid-term elections in U.S.

What are the likely outcomes of this result?

- The polarisation between older, white males who are the supporters of Mr. Trump and the younger, multi-ethnic coalition backing Hillary Clinton would now be reflected in the American politics.
- The new Democratic representatives are diverse and the House will be the first to have over 100 women.
- Since the Republicans have strengthened their lead in the Senate, it would be more control over the foreign relations and domestic institutional oversight.

How this result will affect foreign relations?

- The White House and Senate have always been more impactful with respect to the foreign affairs.
- And from the decisions taken in the past, Presidents who have lost mid-term elections have instead pursued their chosen policies with even greater determination.
- Yet there would be a new cautiousness in the inward focused US actions as certain areas like Trade will have to face a vote in the Democratic House.
- There is uncertainty whether the Democratic majority will unite around the anti-Beijing moves which has been one characteristic of Mr Trump's trade negotiators.
- But there is now a check, even if a relatively small one against Mr. Trump's attempts to rewrite the post-War world order.
- And the American capital focused on partisan wrangling will less likely devote energy to the rest of the world.

8.3 Sri Lanka's Political Crisis

Why in news?

Sri Lankan President dissolved the Sri Lankan Parliament and called a snap general election.

What is the ongoing political crisis in Sri Lanka?

- Sri Lanka has been facing a political crisis for a fortnight now, with President Mr. Sirisena abruptly sacking his Prime Minister Ranil Wickremesinghe and replacing him with Mr. Rajapaksa, a former President.

- The political flux over the past two weeks was the culmination of a bitter power struggle between Mr. Sirisena and Mr. Wickremesinghe within the ruling coalition.
- The two leaders, from traditionally rival parties and with incompatible ideologies, had joined hands to form the government in 2015, ousting Mr. Rajapaksa.
- The president's action has apparently defied the Constitution or more specifically, its 19th Amendment a 2015 legislation that clipped the powers of the President significantly.
- Resisting Mr. Sirisena's move, Mr. Wickremesinghe maintained that he was the legitimate Prime Minister and challenged Mr. Rajapaksa to a vote in Parliament to test their claims to majority.

What is the reason behind president's move?

- Mr. Sirisena had earlier suspended Parliament until November 16, possibly to muster strength for his front, but summoned the House for November 14, amid growing pressure.
- The announcement for general election came within hours of his party spokesman publicly admitting to lacking a majority in Parliament.
- Mr. Sirisena's front was aiming for a majority to push its controversially installed Prime Minister Mahinda Rajapaksa through the legislature.

What are the concerns with the actions of the President?

- Under the Constitution, the Prime Minister's office does not fall vacant unless in circumstances of his death, voluntary resignation or loss of majority in a crucial vote in Parliament.
- Since none of these is true in the current situation, a new appointment by the President is constitutionally ruled out.
- Some lawyers point to a discrepancy between the English and Sinhala texts of the Constitution and claim the President, as per the Sinhala version, still has the power to remove a Prime Minister.
- Other constitutional lawyers have argued that while there is a discrepancy in language and framing, the import and essence of the Sinhala text is consistent with that in English, especially when read along with the rest of the Constitution in Sinhala.
- On the dissolution of Parliament, the President does not have the powers to dissolve Parliament within four-and-a-half years of its convening, unless requested by two-thirds of its members, as per the 19th Amendment.
- The President's side has invoked Article 33(2) C that lists the powers to summon, prorogue and dissolve Parliament, in addition to his existing powers.
- All the same, critics have noted that while the Article is a general enumeration of his powers, it is the 19th Amendment's specific provision that must prevail in such a situation.

What is the way forward?

- The conduct of elections will depend on the Election Commission's position on the development and possible legal hurdles, since Mr. Wickremesinghe's United National Party (UNP) has vowed to move the Supreme Court on the "illegal" dissolution of Parliament.
- From the time the 19th Amendment capped the Presidency at two terms, Mr. Rajapaksa has been eager to return as Prime Minister. But he is now with Mr. Sirisena, who brings with him at least part of his unpopular coalition government's incumbency.
- Mr. Wickremesinghe, on the other hand, is faced with a dual challenge some within his party have been demanding a new leader for some time, while those backing him are aware of his falling political stock amid a growing economic crisis.

8.4 Draft EU-UK Brexit deal

Why in news?

The European Union and the United Kingdom have reached on a draft divorce agreement on Britain's exit from the EU.

What is Brexit all about?

- In 2016, Brexit was announced in Britain after the referendum for exiting the European Union.
- This decision was taken due to various reasons such as -
 1. Limited space for Britain to negotiate trade agreements with non-EU nations.
 2. The trade deals with EU are more than the terms that can be made by UK with other countries.
- After the referendum, the UK and EU provisionally agreed to settle financial, strategic and political issues over a transition period of 21 months.

What does the latest draft contain?

- **Transition period** - Britain will formally exit the EU on Friday, March 29, 2019, at which point it will cease to be involved at any level in EU decision-making.
- However, the UK will stay inside the bloc's single market and remain subject to EU laws and regulations until the end of December 2020 while the two sides attempt to iron out a new trade relationship.
- During this period, all existing EU "regulatory, budgetary, supervisory, judiciary and enforcement instruments and structures" will continue to apply within the UK, including rulings made in the Court of Justice of the EU.
- In effect, the transition period provides the two parties with additional time in which to continue negotiations.
- The transition period can be extended, by joint agreement before July 1, 2020, for an unspecified period of time if the negotiations need to be continued.
- **Irish border** – Ireland is an island to the west of Britain and has two major regions (north and south) with distinct demographic features.
- "Protestant majority Northern Ireland" (a U.K. territory) and "Catholic majority Irish Republic" (an independent country in the south), have had serious ethnic tensions within and between them.
- Since Irish Republic is an EU member, a porous border with it would mean a porous border with EU, which is not wanted by the pro-leave group in U.K.
- Thus it is agreed that there will be no hard border between Northern Ireland and the Irish Republic, at least in the short term.
- **Customs union** - If the transition period extends beyond 2020, the draft deal commits both parties to a single customs territory between the EU and the United Kingdom.
- The customs union would remove all tariffs, checks on rules of origin and quotas, and would cover all goods except fishery products.
- While part of the customs union, the UK will be bound by all EU international trade agreements.
- This would mean that countries outside the EU, such as the United States and China, would have access to the UK market under conditions set out in the EU's trade agreements.
- This provision can only be removed through the agreement of both parties, essentially preventing the UK from exiting the customs union without the approval of the EU.
- **Financial markets** - Under the draft agreement, entities established in the United Kingdom shall be treated as entities located outside the Union by the EU after the deal.
- This will give London's vast financial centre only a basic level of access to the bloc's markets after Brexit.
- Currently, inside the EU, banks and insurers in Britain enjoy unfettered access to customers across the bloc in all financial activities.
- After Brexit, Britain would get only a similar level of access to the EU as major U.S. and Japanese firms, while tying it to many EU finance rules for years to come.
- This can potentially jeopardize London's attractiveness to international financial companies.
- **Freedom of movement** - The draft document provides protections for the more than three million EU citizens in the UK, and over one million UK nationals in EU countries to continue to live, work or study as they currently do.
- Crucially, no exit visa, entry visa or equivalent formality shall be required of holders of a valid document issued for EU and UK nationals when crossing national borders within the bloc.
- **UK divorce bill** - The UK will honor all existing joint commitments to EU programs as outlined in the EU budget until 2020.
- Under this, Britain agrees to cover contributions to staff pensions and commitments to EU programs the U.K. made while a member for the funding period that runs to 2020.

Where does India's interests lie?

- The best-case scenario now is that Britain gets the draft bill through Parliament and then struggle with the complex nitty-gritty of the deal.
- Alternatively, Britain can crash out of the EU without a deal itself, which could affect everything from airline flights to food imports.
- A second referendum on leaving the EU is out of the question but that is looking increasingly likely as the other options are unable to find a permanent solution.
- For India, Brexit matters because London is the financial capital of the world and the bridgehead into Europe for many Indian companies.
- Hence for India, a second referendum that keeps Britain in the EU would be the best option.

8.5 Draft EU-UK Brexit deal – II

Why in news?

The ruling government in Britain is struggling to retain support for the recently proposed Brexit deal in the parliament.

Click [here](#) to know more on the issue.

What are the concerns surrounding the Brexit deal?

- The Brexit Referendum, that happened in 2016, narrowly went in favour of pro-leave camp.
- The Conservative government under PM Teresa May has categorically stated that it would fulfil the mandate in favour of leave.
- Under this, a draft EU-UK Brexit deal was proposed by the Britain government recently.
- However, the ruling government is facing a possible vote of no confidence over the modalities of the deal and its future relationship with the EU.
- The heart of this bitter dispute is the withdrawal deal with the other 27 nations in the bloc, which would leave the country largely bound to current regulations, with diminished influence over policy formulation.
- With just months left for the U.K.'s withdrawal from the European Union, there is little clarity on the terms of its exit or indeed whether the verdict of the 2016 referendum can be honoured at all.
- Hence, the government faces an uphill task to secure parliamentary approval for the deal.
- This was also followed by of a spate of resignations by senior Cabinet ministers in the last few days.

What could happen if the deal is not made?

- The pro-Brexit Ministers who have chosen to stick with the ruling government are anxious that the terms of withdrawal be altered.
- This group recognises the importance of a soft border between Northern Ireland and the Republic of Ireland.
- But they are opposed to the customs union with the EU for an indefinite period and constrain its ability to strike trade deals, if the transition period extends beyond 2020.
- Some of the ministers within the ruling government are also lobbying Prime Minister Theresa May to change the terms of the deal.
- However, PM insists that her deal meets what the people voted for in the referendum and prevents the development of a hard border between the Republic of Ireland and Northern Ireland.
- Hence, the ruling government's failure to win parliamentary backing for the exit deal would raise the risk of a no-deal Brexit, with potentially chaotic ramifications.
- If there is no deal being made, Britain would be crashed out of the EU on World Trade Organisation terms.
- Most rational observers agree that this situation would be disastrous for the country.
- This could also pave the way for a possibility of a second referendum, and the more remote one of a general election in Britain.
- However, not one of them commands support from a majority of politicians or has clear support from the public.
- In a recent Sky Data poll, 55% backed a second referendum and just one in seven backed Ms. May's deal.
- Thus Britain remains as divided as ever before or possibly more so.

What should be done?

- Growing uncertainties over Britain's future on the global stage expose the hollowness of the Leave campaign and the fragility of its leadership.
- The deal, as it stands, is far from ideal and does not deliver on the "taking back control" message that had been touted throughout the referendum campaign.
- The Brexit campaigners also made a pledge then that forging a trade deal with the EU would be the easiest in history.
- However, the trouble has been that right from the start, the Brexit envisaged could never have matched reality.
- The idea of Britain untethering itself from Europe and magically floating around the world was never going to happen.
- This is a world of shifting priorities and Britain is a country whose supply chains for goods and services sector, which is a major component of the economy, are enmeshed in Europe.

- Even then, the Brexiteers are determined to shout down anyone warning of potential disruption to the country.
- Senior economists and business leaders who have warned of negative consequences have been portrayed as anti-national establishment figures intent on talking Britain down.
- The consequence of all these is faced by the public, who had been left with a distorted sense of reality.
- They have been told that the Brexit would lead to the end of free movement and the associated immigrations into the country.
- However, the idea of an independent and a self-sufficient trading nation not structured by foreign courts or regulations is pure fantasy in today's world.
- Thus, whichever direction Britain takes from here, society will remain deeply divided, and thus it needs an honest conversation to move forward with the deal.

8.6 APEC summit and its concerns

Why in news?

The U.S.-China discord at the recently held APEC summit highlights the dangers of their tariff war between the trading nations.

What are the concerns with the latest summit?

- For the first time in APEC history, the summit closed without a joint statement from the leaders.
- The economic rivalry between US and China appeared to have fractured the 21-nation summit into two segments.
- The source of the friction stemmed from the “America First” policy, under which U.S. led the charge on “unfair trade practices”.
- This was an implicit accusation that China was not levelling the playing field in global trade.
- The U.S. has been urging China so far –
 1. To increase market access and grant intellectual property protections for American corporations
 2. Cut back on industrial subsidies
 3. Bringing down the \$375-billion trade gap
- US also implicitly warn Pacific nations off accepting financial help from China.
- It says that the infrastructure loans, which have been deployed by China with Pacific countries, had “opaque” terms, and threatened the sovereignty of small nations and could leave them in a debt trap.
- Also, the Belt and Road Initiative of China has worried smaller Asian nations and the U.S., particularly given that China views the Asia-Pacific landscape as a means to secure economic predominance worldwide.

What are the effects?

- The trouble between the two nations began when both started taxing \$50 billion worth of the other's imports.
- This was followed by the U.S. slapping \$200 billion of Chinese exports with a 10% tariff, to be increased up to 25% later.
- China, on its part, retaliated with a promise to impose reciprocal taxes to the tune of \$60 billion.
- The tariff war has resulted in the IMF downgrading its global growth outlook for this year and the next to 3.7%, down 0.2 percentage points from an earlier forecast.
- If this continues, eventually global supply chains may be hit, and shrinking trade volumes may cause companies to seek out new trading routes and partners.
- Institutionally, multilateral rule-making bodies such as the WTO may lose their authority which ensured a consensus-based approach in the world trade since World War II.
- This will result in an interlocking system of bilateral trade treaties and punitive sanctions networks among the trading nations.
- Despite these concerns, Australia, the US, New Zealand and Japan announced in the summit they would invest in Papua New Guinea to bring electricity to 70% of people in the country.
- The US also announced it would partner with Australia and Papua New Guinea to upgrade the Lombrum Naval Base on Manus Island, which could hand them another crucial strategic outpost in the Pacific.
- Thus, Asia will be at the heart of this war of attrition because strategic control of its high-value maritime trading routes is the key to China's dreams of global trade dominance.
- The world is still poised on the edge of the trade war vortex after the APEC summit.

- The forthcoming G20 meeting in Argentina should offer an opportunity to pull back from this brink.

Quick facts

Asia Pacific economic co-operation

- It is regional economic forum of 21 Pacific Rim member economies that promotes free trade throughout the Asia-Pacific region.
- These 21 member countries collectively account for nearly 50% of world's trade and about 57% of GDP.
- It was established in 1989 in order to leverage growing interdependence of Asia-Pacific region's economies and promote free trade in the region.
- The 21 Members Economies are Australia, Brunei, Canada, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, United States, Taiwan, Hong Kong, China, Mexico, Papua New Guinea, Chile, Peru, Russian and Vietnam.
- India is an observer of APEC since 2011 and has applied for its membership.

G.S PAPER III

9. ECONOMY

9.1 Ease of Doing Business Index

Why in news?

World Bank has released the Ease of Doing Business Index recently.

What does the report contain?

- The Index ranks 190 countries across 10 indicators ranged across the lifecycle of a business from 'starting a business' to 'resolving insolvency'.
- The top 10 economies in the index are New Zealand, Singapore and Denmark, which retain their first, second and third spots, respectively, for a second consecutive year.
- It was followed by Hong Kong SAR, Republic of Korea, Georgia, Norway, United States, United Kingdom and FYR Macedonia.
- India jumps 23 spots to **77th rank** in World Bank's latest report, while it was ranked 100th last year, moving up from 131st position that it recorded in 2016.
- India has improved its rank by 53 positions in the last two years, and 65 positions in the last four years (2014-18).
- India in the 2019 edition stands well ahead of South Africa (82) and Brazil (109), and is fast closing the gap on China (46) and Russia (31).
- India is now the best-ranked country in South Asia and has almost caught up with other competitors such as Indonesia (73) and Vietnam (69).
- The report also recognises India as one of the top 10 improvers in this year's assessment, for the second successive time.
- India is the one of only nine countries around the world and only one in BRICS to feature in this list.



What are the contributing factors?

- India has improved its rank in six out of the 10 indicators and has moved closer to international best practices on seven out of 10 indicators.

- The six reforms recognised in this year's report are starting a business, getting electricity, dealing with construction permits, getting credit, paying taxes and trading across borders.
- The most dramatic improvements have been registered in the indicators related to 'Construction Permits' and 'Trading Across Borders'.
- In the 'Grant of Construction Permits' indicator, India's ranking improved from 181 last year to 52 in this year's report—a **jump of 129 ranks** in a single year.
- India has implemented an online single window system, introduced deemed approvals and reduced the cost for obtaining these permits in dealing with construction permits and this has provided a major boost in the ranking.
- India reduced the time and cost to export and import through various initiatives, including the implementation of electronic sealing of containers, the upgrading of port infrastructure and allowing electronic submission of supporting documents with digital signatures.
- As a result, India's rank improved by 66 positions, moving from 146 in 2017 to 80 in 2018 in the 'Trading Across Borders' indicator.
- On the "distance to frontier metric", a measure to gauge how far an economy's policies are from global best practices, India's score improved to 67.23 from 60.76 last year.
- This means last year India improved its business regulations in absolute terms, indicating that the country is continuing its steady shift towards global standards.
- In the electricity sector, the time taken for obtaining a new connection has reduced from 105 to 55 days.
- For resolving insolvency, India has put in place a new Insolvency and Bankruptcy Code and time bound reorganization procedure for corporate debtors.
- During the past year, India made Starting a Business easier by fully integrating multiple application forms into a general incorporation form.
- India also replaced the value added tax with the Goods and Services Tax (GST) for which the registration process is faster in both Delhi and Mumbai, the two cities measured by the Doing Business report.
- In addition, Mumbai abolished the practice of site inspections for registering companies under the Shops and Establishments Act.
- As a result, the time to start a business has been halved to 16 days, from 30 days.
- All these measures have resulted in India's ranking in the top 25 on three indicators such as getting electricity, getting credit and protecting minority investors (Rank 7).

Indicator	Rank in 2017	Rank in 2018	Improvement in ranking
Construction permits	181	52	129
Trading across borders	146	80	66
Starting a business	156	137	19
Getting credit	29	22	7
Getting Electricity	29	24	5
Enforcing contracts	164	163	1
Overall rank	100	77	23

DB 2019 | India Highlights



What are the concerns?

- India's sustained rise in the rankings is perhaps the best answer to questions about the credibility of India's reform momentum.
- Also, since the World Bank sets May 1 as the deadline for measurement, several initiatives taken by the government will reflect in next year's rankings including the full effects of IBC and GST.
- However, this is not to turn a blind eye to what still ails at the ground level.
- Despite all-round improvements, there are key areas where India continues to lag.
- For instance, enforcing contracts is an aspect of traditional weakness, where India continues to falter and it stands at 163.
- Further, despite the GST and the IBC, India's overall score on paying taxes and resolving insolvency stays at an unacceptably low level.

- This shows the extent to which the actual implementation of these reforms needs to be made more effective.
- Moreover, it must be underscored again that these rankings are based on improvement in two of the main cities, Delhi and Mumbai, both of which benefit from being the political and financial capitals of the country.
- The reality in other prominent cities and smaller towns is most likely worse.

9.2 Section 7 of the RBI Act

Why in news?

The Central government has reportedly initiated steps towards invoking its powers under Section 7 of the RBI Act of 1934.

What does the section contain?

- It is a provision under which the government can give directions to the RBI to take certain actions in the public interest.
- This provision has been built into the law governing not just the RBI but also regulatory bodies in other sectors.
- Section 7 has two parts - consultation and then issuing a direction to the RBI for taking some action in public interest.
- Under it, the Central Government may from time to time give such directions to the Bank as it may consider necessary in the public interest.
- This has to be done only after consultation with the Governor of RBI.
- Subject to any such directions, the general superintendence and direction of the affairs and business of the Bank shall be entrusted to a Central Board of Directors.
- The Central Board of Directors in turn will exercise all powers and do all acts and things which may be exercised or done by the Bank.
- The Central Board of Directors comprises a Governor and [not more than four] Deputy Governors to be appointed by the Centre, four Directors to be nominated by the Centre and one government official nominated by the Centre.
- Giving control of the RBI to its Board of Directors effectively gives control to the Central Government.
- Until now, however, the government has never exercised its powers under Section 7 of the RBI Act.

What has led to this scenario?

- The central government issued three letters to the central bank in the last one month for consultation under Section 7 of the RBI Act.
- The First letter pertained to exemption for power companies from new stressed asset norms.
- The second one was related to dilute capital threshold norms of the prompt corrective action framework.
- The third one was pertaining to more capital to the government from the reserves of the central bank.
- However, RBI has refused to provide any leeway to stressed borrowers or give in to the demand of higher dividend by the government.
- RBI on its part said that it has responded to all the communications that were sent by the government and has decided to maintain its stance.
- This made the government to invoke its powers and initiate consultations under Section 7.

What should be done?

- While RBI Governors had conflicts with the government earlier too, it had never reached the extent of initiating consultations under Section 7.
- Independence to the central bank is granted by the government with a specific purpose.
- Experience has also shown that trust and confidence will improve if the spending authority, viz., the government is separate from the money creating authority, that is, central bank or monetary authority.
- The government has now started the first step under Section 7, which is to start consultations with the RBI Governor on issues such as easing the PCA framework, providing more credit to small units.
- The next step lies in issuing a directive to the RBI, something which has never been done so far in the history of the RBI.
- The finance ministry recently issued a statement emphasising on RBI's autonomy, but added that it would continue consultations.
- Thus the autonomy for the central bank, within the framework of the RBI Act, is an essential and accepted governance requirement and the central government should nurture and respect it.

9.3 Indo-Japan Currency Swap Arrangement

Why in news?

Union government recently signed a bilateral currency swap arrangement with Japan.

What is the currency swap arrangement all about?

- A bilateral currency swap is an open-ended credit line from one country to another at a fixed exchange rate.
- The country which avails itself of this loan pays interest to the country which provides it, at a benchmark interest rate such as the Libor (London Inter-bank rate).
- While India has such arrangements with many Asian nations, the arrangement with Japan is among the largest of such deals, valued at \$75 billion.
- The government hopes that this deal will act as a buffer to shore up the rupee, which has depreciated by 14 per cent against the dollar this year.

How the arrangement will work?

- The currency swap arrangement will allow the Indian central bank to draw up to \$75 billion worth of yen or dollars as a loan from the Japanese government whenever it needs this money.
- The RBI can either sell these dollars (or yen) to importers to settle their bills or to borrowers to pay off their foreign loans.
- The RBI can even hang on to the money to shore up its own foreign exchange reserves and defend in the rupee.
- While the RBI had amassed foreign currency reserves of over \$426 billion by April 2018, it has had to use up some of this in recent weeks to prop up the rupee.
- Though present forex reserves at over \$390 billion are still comfortable, having a \$75-billion loan-on-demand from Japan gives the RBI an additional buffer to fall back on, should it need extra dollars.

What is the reason behind such arrangement?

- In recent times, the rupee has been falling against the dollar because of its widening current account deficit (the difference between imports and exports of goods and services).
- This leads to importers upping their demand for dollars far beyond what exporters bring into the country.
- A swap arrangement with Japan provides considerable comfort to India, because Japan is the second largest holder of dollar reserves in the world after China and is sitting on fat coffers of over \$1,250 billion.
- Therefore, while Japan is quite unlikely to ask India for a dollar loan, India can make use of such a loan at rock-bottom interest rates.
- Japan may also see this deal as quid pro quo for lucrative investment deals that help Japanese companies set up shop in India.

9.4 Evolution of Dollar as global currency

Why in news?

Many countries, including India, are looking to rely less on the dollar in recent times and hence becomes important to look at its evolution.

What was the background?

- Since the early 19th century, countries struggled to find the best way to settle trade balance.
- It was not easy as each country had its own currency with no check on more printing.
- Finally, most countries agreed to settle trade deficits through the exchange of gold and this system continued up to World War I.
- Then many countries stopped their currencies' convertibility to gold so they could print more money to finance the war effort.
- Disappearance of gold as a common anchor led to the collapse of the global financial system and became one of the reasons leading to great depression in the early 1930s.
- Countries on the winning side of World War II realised the importance of an anchor like gold for promoting stable trade and finance.
- Thus they agreed to establish a robust global financial system.
- Britain proposed creating an International Clearing Union (ICU) to keep account of countries' exports and imports.
- The unit of account for such transactions would be Bancor (French for Bank Gold).

- Exports would add Bancors while imports would subtract these in a country's ICU account.
- Limits were proposed on the amount of deficit, and if it exceeded, the country's currency was allowed to depreciate.
- This method served as a currency neutral system.
- But the US rejected it and proposed that the new system should rest on both gold and the US dollar.
- However, no one liked this idea as this would make the dollar the supreme currency of the world.
- But the view of US, which is also the principal financier of the victorious side of the war, prevailed.
- This was confirmed by the signing of Bretton Woods agreement in 1944 by all 44 participating nations, except Soviet Union.
- The member-countries agreed to maintain a fixed exchange rate which could be adjusted if deficits or surpluses persisted.
- The International Monetary Fund (IMF) was created to lend to member-countries in need of foreign exchange.
- The price of gold was fixed at \$35 per ounce.
- The US agreed to supply gold at this price in the exchange with dollars held by other countries.

How was the de-linking of gold and dollar resulted in dollar supremacy?

- The gold for dollar system worked during 1950-70.
- But it came under strain as the US started printing and spending a large value of dollars on post-war reconstruction efforts.
- When countries holding these dollars went for exchange with gold, the US gold reserves started vanishing.
- Gold supply was finite, but the dollar printing became infinite.
- Thus the US withdrew from its commitment to convert the US dollar to gold.
- De-linking gold with dollar made the US the linchpin of global finance.
- Other countries need to earn foreign exchange (in terms of dollars) by exporting goods or services, while the US economy can indulge in printing dollars.
- This made US Federal Reserve as the central bank of the world and all other central banks must calibrate their policies to be in sync with the Fed's.
- It could print dollars without bothering about domestic inflation or balance-of-payments as over two-thirds of all dollars in circulation are held outside the US.
- It could also carry out massive expenditures on military activities and foreign aid to achieve its political objectives.
- The Soviet Union was the only major country opposing the dollar's status, and that was the main reason for the Cold War.
- Europe and Japan reluctantly joined the US political and military umbrella, and accepted dollar as the de facto world currency.

What is the impact of dollar-centric system?

- A country's economy, especially developing ones, became ransom to Fed's actions.
- If Fed increases the interest rate, dollars flow back to the US, and if it lowers rates, dollars move to the countries where there is high growth potential or the possibility of providing higher returns for their investments.
- Also, trillions of dollars have been loaned to corporates at near zero interest rate, which transfers wealth from the people to corporates.
- This is a key reason for the concentration of wealth in the top one per cent of the population.
- US actions are being emulated by China and other countries which have also printed and offloaded large volume of money in the past 10 years.
- Awash with cheap loans, Chinese firms export subsidised goods with no relation between cost and price.
- This has distorted the world trading pattern.

What are the options before India?

- Many countries have started settling trade transactions in local currencies in recent times.
- Germany and France are setting up a Euro based trading system to continue trading with Iran in the wake of the US call to punish countries having any trade relation with Iran.

- India and Japan recently agreed to raise the value of currency swap from the \$50 billion (agreed in 2013) to \$75 billion.
- This means India can now readily borrow up to \$75 billion from Japan in exchange for rupees.
- This was the latest measure taken by the government to dampen the rupee's slide against the dollar.
- Along with that, India needs to avoid the lure of hot money like US dollar that comes for investment in debt market and shares.
- Hot money is the flow of funds from one country to another in order to earn a short-term profit on interest rate differences and/or anticipated exchange rate shifts.
- Also, India needs to reduce its \$90-billion annual crude oil import bill.
- This is possible through transparent regulation, investment in domestic oil exploration and switching to green energy options.
- Many countries, including the US, have turned from energy importers to net energy exporters using these strategies.
- Finally, India is batting far below its potential in exports and hence the measures to boost exports must be enhanced.
- All these measures could reduce India's dependence on the dollar and could ensure macro-economic stability on the domestic front.

9.5 New Guidelines for Credit Rating Agencies

Why in news?

SEBI has come out with new guidelines to improve the quality of disclosures made by credit rating agencies recently.

What does the guidelines say?

- The regulator issued a circular tightening disclosure norms for rating agencies when they rate companies and their debt.
- Experts say rating agencies in India often failed to consider cash flows and ground conditions before assigning a rating.
- Hence rating agencies must now disclose the liquidity position of a company.
- They have to inform investors about a company through parameters such as their cash balance, liquidity coverage ratio, access to emergency credit lines, asset-liability mismatch, etc.
- If the rating is assigned on the assumption of cash inflow to the company they rate, the agencies would need to disclose the source of the funding.
- Thus they would now be required to furnish information on whether the rating is factoring in support from a parent company, its group companies or from the government.
- They are also required to name of such entities, along with rationale for such expectation.
- Rating agencies must also disclose their rating history and how the ratings have transitioned across categories.
- This is to inform clients about how often their rating of an entity has changed over a period of time.
- Also, when subsidiaries or group companies are consolidated to arrive at a rating, list of all such companies, along with the extent (e.g. full, proportionate or moderate) and rationale of consolidation, will have to be provided.
- All rating agencies would require furnish data on its rating actions in investment grade rating category, to stock exchanges and depositories for disclosure on website on half-yearly basis, within 15 days from the end of the half-year.

Why are the norms revised?

- SEBI has been working hard to improve transparency and credibility among rating agencies for some time now.
- It has already issued a circular in November 2016 calling for enhanced standards for rating agencies.
- But the latest disclosure norms seem to be a response to the IL&FS defaults and the ensuing crisis.
- Rating agencies came under the spotlight following the crisis at Infrastructure Leasing & Financial Services Ltd (IL&FS) and its group entities.
- Many mutual fund houses, invested in it, were caught unaware as major credit rating agencies started to cut ratings from high investment grade to default or junk.
- The agencies faced criticism that they had failed to see the financial troubles in the group and adjust its rating of IL&FS only when its debt jumped by 44% at the end of March 2015.

- This prompted the regulator to review the rating standards and whether there is a need for increased accountability, and insist on more disclosures.
- Thus the recent measure mandating the formal disclosure of these facts is welcome.
- The ready availability of information can help investors make better decisions.

What are the concerns?

- However, the latest regulations can only help to a certain extent as a lot of the problems with the credit rating industry have to do with structural issues rather than the lack of formal rules.
- The primary one is the flawed “issuer-pays” model, where a bond’s issuer pays the rating agencies for the initial rating of a security, as well as ongoing ratings.
- The public (and investors) can then access these ratings free of charge.
- This often leads to a situation of conflict of interest wherein the entity which issues the bond/debt instrument also pays the ratings agency for its services, with tremendous potential for rating biases.
- Second, the credit rating market in India has high barriers to entry, which prevent competition that is vital to protecting the interests of investors.
- This is not very different from the case in many developed economies where rating agencies enjoy the benefits of an oligopoly.
- Better disclosures can increase the amount of information available to investors, but without a sufficient number of alternative credit rating providers, quality standards in ratings will not improve.
- It is thus no surprise that even after repeated ratings failures in their long history, credit rating agencies continue to remain and flourish in business.
- Structural reform should aim to solve another severe problem plaguing the industry, which has to do with rating shopping and the loyalty of credit rating agencies in general.
- Rating agencies will have to come up with lucrative business models that put the interests of investors above those of borrowers.
- Such a change requires a policy framework that allows easier entry and innovation in the credit rating industry.

9.6 Side-Pocket Method of Mutual Funds

Why in news?

Mutual funds are taking up the idea of creating a ‘side pocket’ for the doubtful asset, to handle financial pressures.

How Indian mutual funds handles economic pressures?

- The recent case of the IL&FS group defaulting on debt obligations has highly impacted Indian mutual funds. Click [here](#) to know more about IL&FS default.
- Mutual funds are taking up the idea of creating a ‘side pocket’ for the doubtful asset, after such episodes.
- A ‘side pocket’ is a way to segregate quality debt instruments in a debt portfolio, from those that have defaulted on interest or repayments, or are faced with a rating downgrade because of deteriorating financials.
- So, a fund house carves out the bad bonds from its main portfolio into a ‘side pocket’.
- In the IL&FS case, over two dozen schemes had exposure to bonds from IL&FS or its group entities.
- After the downgrade, some schemes decided to treat their entire holding as doubtful, and write it down fully, resulting in a cut of 6-8 per cent in their NAV, which can shake investor confidence.

How a side-pocket method works?

- The fund’s NAV will then reflect the value of the good assets, with a separate NAV assigned to the side-pocket assets based on the estimated realizable value for investors.
- If the doubtful asset is finally sold, the value is credited to unit holders who own the side pocket.
- There are rules governing the valuation write-down that a fund must take when in the case of downgrades or default, and this is typically done in phases, depending on the date of default and NPA recognition norms.
- The proceeds from the side pocket unit sales will be credited to the investors in the fund when the ratings downgrade happened.
- The side pocket also ensures that only investors who were in the fund at the time of the write off, will get the benefit of any future recovery from the bond.

- New investors who buy units after the write-down do not get to make windfall gains.

What is the significance of the side-pocket method?

- Creating a side pocket insulates the rest of the debt funds' portfolio from such rotten apples.
- Typically, when there is news of a default or a ratings downgrade, investors in open end funds may panic and pull out money.
- As sentiment worsens, there can be a rush from all categories of investors to redeem units.
- When faced with redemption requests, a fund house that holds an illiquid downgraded security can be forced to sell its quality holdings in order to meet the redemption pressure.
- Also, investors who do not wish to cash out or are ignorant of the developments would be left back in the fund, facing severe erosion in their NAV.

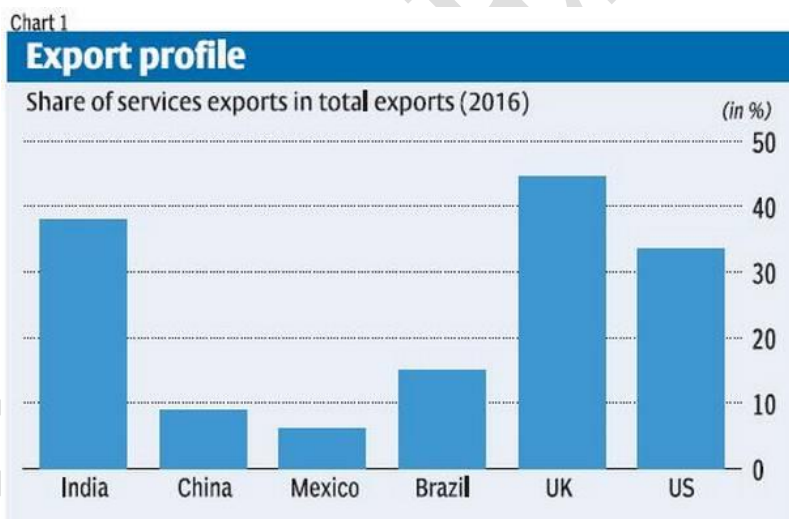
9.7 India's service sector boom and its implications

What is the issue?

The striking divergence in the services sector's contribution to GDP and employment growth is bound to have adverse welfare implications.

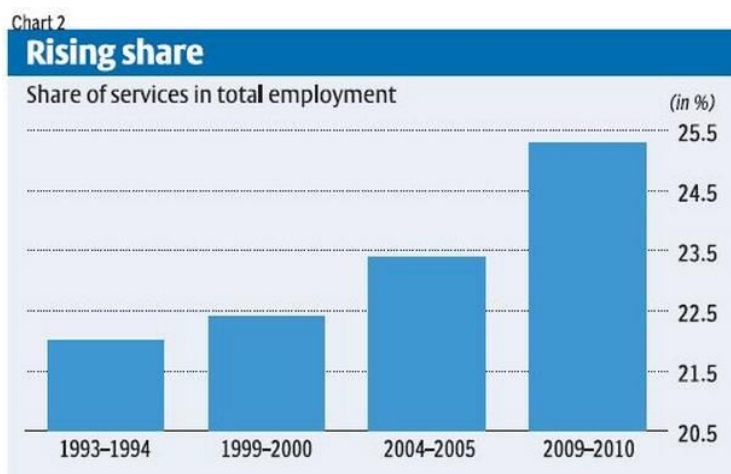
When does the service sector boom started to happen?

- India's economic growth since the 1990s has largely been on account of an expansion of the services sector, in which exports are seen as having played an important role.
- The rise in the share of services in GDP was particularly sharp after 1996-97.
- In the event, services as a group came to dominate the Indian economy, accounting for more than half its GDP.
- The Economic Survey 2013-14 noted that India has the second fastest growing services sector with CAGR (compound annual growth rate) at 9%, just below China's 10.9%, during the last 11-year period from 2001 to 2012.
- This trend has continued which is shown by gross value added(GVA) from services growing at 8.7% per annum and accounted for 58% of the increase in total GVA between 2011-12 and 2016-17.
- This growth in services has also been accompanied by a significant increase in the exports of services.
- India's success in the services exports area has meant that its share of services in total exports (38%) is much higher than in countries such as China, Mexico and Brazil and close to ratios in the UK and the US.
- This has raised India's share in world services exports from 0.6% in 1990 to around 3.5% in 2017.



What is the contribution of unorganised sector here?

- The normal presumption that follows is that diversification into high productivity services accounts for India's premature increase in the relative share of services in total GDP.
- However, India's National Accounts Statistics indicate that the set of "new" and high productive services together accounted for only 28.5% of total gross value added (GVA) in 2016-17.
- These services include transport, storage and communication, financial services, and real estate and professional services.
- On the other hand, traditional services like trade, repair services and hotels and



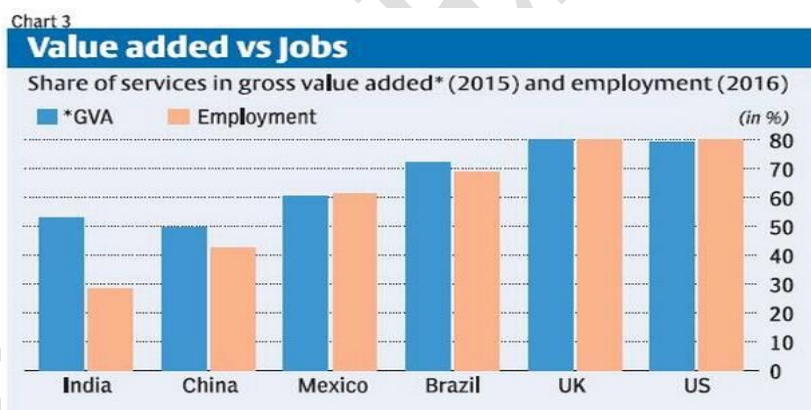
restaurants, dominated by the retail trade, account for 11.1% of GVA and 'other services' for another 6.9%.

This composition suggests that, while 'new' modern services do play an important role in the Indian economy, so do the traditional unorganised services.

- However, these unorganised services are known to be characterised by extremely low earnings, and which grow because of the inadequate employment opportunities in the primary and secondary sectors.

Has the growth ensured adequate employment opportunities?

- Despite the presence of unorganised services, the share of the services sector in total employment was relatively low.
- Between 1999-00 and 2004-05, employment in the tertiary sector increased by only 22%, whereas GDP at constant prices contributed by the services sector expanded by 44%.
- Tertiary sector employment in 2009-10 amounted to only 25% of the work force, despite the fact that around 55% of GDP came from this sector.
- Also, NSSO reveals that the share of services in employment increased by far less than the huge increase in its share in GDP.
- India is also unusual in terms of the wide divergence of the shares of the services sector in total gross value added and employment.
- The GVA and employment shares in India were 53 and 29%, as compared with 50 and 42% in China, 60 and 61% in Mexico, and 72 and 69% in Brazil.
- The Economic Survey 2016-17 says that among the top 15 services producer countries, India has the lowest share (28.6%) of total employment in 2016.



What are the reasons?

- The weak responsiveness of employment to an increase in services production is possibly because high productivity services contributed so little to employment.
- For example, within the modern services, financial intermediation and real estate, renting and business activities together recorded an increase in employment share of only one percentage point between 1999-00 and 2009-10.
- These are the 'boom' sectors that have generated the new rich of post-reform India.
- Even the much-celebrated growth of IT and IT-enabled services has not been accompanied by a proportionate growth in employment.
- According to a study by the Central Statistical Organisation the share of ICT services in total GDP had increased from 3% in 2000-01 to 6% in 2007-08.
- The share of ICT services in service sector GDP went up from 6% in 2000-01 to 10% in 2007-08.
- On the other hand, the NSS data shows that employment in computer related activities which increased from 314 million in 1999-00 to 963 million in 2004-05, accounted for only 0.2% of the work force.
- This figure rose to just 0.4% in 2009-10.
- This explains in large measure the lack of correspondence of the shares of services in GDP and employment.

What does these results show?

- The lack of employment opportunities, despite services sector growth, was compensated by a substantial increase in employment in the construction sector.
- Total employment in the construction sector rose from 17 million in 2000 to 50 million in 2011-12, doubling over the years from 2004-05, mainly because of increased employment in rural construction.
- In the event, the share of the construction sector in total employment rose from 4.4% in 1999-2000 to 10.5% in 2011-12.
- Thus, if a high growth sector like services does not contribute to absorbing the large numbers of under- and unemployed workers in India, the welfare implications of the growth trajectory are bound to be adverse.
- This shows that India's alternative growth model, which involves premature diversification in favour of high productivity services, left out adequate development of a manufacturing base.



9.8 SC Order on Binani Cement Acquisition - Assessing the IBC Process

Why in news?

The Supreme Court (SC) recently allowed UltraTech Cement's purchase of bankrupt Binani Cement to go through.

What is the case on?

- The case involves the bidding process of debt-laden Binani Cement Ltd, under Insolvency and Bankruptcy Code (IBC).
- In the course of bidding, Dalmia Bharat Pvt. Ltd-owned Rajputana Properties had bid Rs 69.30 billion.
- However, the Binani's Committee of Creditors (CoC) then received a revised bid from UltraTech cement of Rs 79 billion.
- Binani Cement's CoC decided to consider this improved bid, even after Rajputana Properties' offer was declared the highest.
- It was also filed with the Kolkata bench of the bankruptcy court for its approval.
- The CoC's decision would entirely pay off all secured and unsecured financial creditors, as well as operational creditors of Binani.
- Rajputana Properties had approached the apex court, challenging the CoC's decision.
- It argued that it was against the spirit of the insolvency law as one could not have revised its bid after being aware of the competitor's bid.
- The court referred the matter to the NCLAT (National Company Law Appellate Tribunal).

What was NCLAT's ruling?

- A two-member bench of NCLAT had dismissed the appeal by Rajputana Properties.
- NCLAT held that the objective of the Insolvency and Bankruptcy Code was resolution.
- Ultimately, the purpose of the resolution is for maximization of the value of assets of the debtor.
- Also, the resolution process should consider the interests of even those creditors, who are not part of the resolution process, such as operational creditors.
- NCLAT said that Rajputana's offer for Binani Cement was "discriminatory" against some financial creditors.
- Notably, UltraTech's bid was backed by 100% of secured creditors, 100% of unsecured creditors and 100% of operational creditors.
- Backed by this rationality, the Court upheld the order of the National Company Law Appellate Tribunal (NCLAT).
- This is a victory for UltraTech and for the committee of creditors of Binani Cement.

What are the concerns?

- The ruling is a severe blow to the integrity of the process embedded in the Insolvency and Bankruptcy Code (IBC).
- The decision seems to be not in keeping with the natural justice of the auction process.
- Acceptance of offers outside the IBC-sanctioned bidding process undermines the whole basis of the auction mechanism.
- Moreover, operational creditors are not specifically "discriminated" against in the IBC process.
- There is, in all economic transactions, a hierarchy of creditors.
- Financial creditors such as bond-holders are usually at the top of this list, and the IBC recognises this basic fact.
- In sealed-bid auctions, allowing collection of information, after opening the bid, to make another offer is unfair.
- If this is allowed, all future auctions will see lower bids as other parties begin to hold back their offers to examine what others would bid.
- In any case, there is now an incentive for companies to short-circuit or manipulate the bidding process.

What lies ahead?

- Certainly, the gap needs to be addressed by the government.
- The NCLAT judgment needs to be carefully studied by the appropriate ministries (including corporate affairs, finance, law).
- Suitable amendments have to be proposed to the IBC's governing legislation.
- The legal loopholes that have been taken advantage of in this case have to be addressed.

9.9 Concerns on Anti-dumping duty

What is the issue?

Indian economy continues to be hurt by dumping of products from other countries and there is a need for a clear procedure to levy anti-dumping duties.

Why should an anti-dumping duty be levied?

- Dumping is a process where a company exports a product at a price lower than the price it normally charges in its home market.
- An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- India is one of the largest consumption economies in the world and a potential ground for dumping a wide variety of goods, especially from China, Taiwan and South Korea.
- Thus, India must have strong anti-dumping defences in place.

What are the concerns in dealing with dumping?

- **Under-staffing** - The Directorate General of Trade Remedies (DGTR) that looks at unfair trade practices by exporters from other countries, is inadequately staffed.
- DGTR has just seven costing officers and five investigating officers and the allocation of work is uneven among them.
- This has resulted in delay and arbitrariness in decision-making.
- **Duty Imposition** - Generally, once initial investigation reveals injury on account of dumping, an interim duty is levied for immediate relief.
- A final duty is levied after extensive investigation.
- Every case taken up for investigation had interim duties levied in 2009.
- But this has gradually declined in recent years.
- Imposition of interim and final duties are also invariably delayed.
- This has resulted in shutting down of MSMEs who are unable to compete in the market.
- e.g In many case, getting the case initiated itself takes about a year, which is followed by Finance Ministry taking another 3 months to impose ADD.
- **Sunset review** - ADD is applicable only for a selective period.
- If dumping still continues, the industry can apply for a sunset review at the end of 5 years.
- Globally, once a sunset review is applied for, the ADD is extended for 1 year pending investigation.
- In India, industries has been asked to apply for sunset review 9 months before the expiry of ADD.
- This made the Indian players getting deprived of protection for a year compared to their peers across the world.
- This is critical because the DGTR has been rejecting almost every sunset review application.
- **Difference of opinion** - In 2018, only one of seven reviews was duty extended.
- DGTR is increasingly hesitant to extend ADD beyond 10 years on the grounds that this period is good enough for the industry to become competitive.
- But the industry players argue that as long as dumping continues ADDs need to be in place to protect the domestic industry.
- **Duty calculation** - Dumping margin is the difference between the normal value and the export price of the goods under complaint.
- Lesser duty means lesser of dumping margin or injury margin.
- Anti-dumping duty should be either equal to dumping margin or lesser amount, which is sufficient to redress injury.
- India follows a 'lesser duty' rule.
- Also, at times, even when DGTR recommends ADD, the Finance Ministry declines on the ground that low-priced imports are good for the country.

What should be done?

- Predatory priced imports will eventually kill the domestic industry and make the country dependent on imports.

- Hence DGTR has to lay down a clear procedure on levying anti-dumping duties in India such that a balance between domestic production and local consumption be ensured.

9.10 Trust model in state sponsored insurance

What is the issue?

There have been recommendations to government to avoid insurance companies for state-sponsored insurance schemes and instead to follow a trust model.

What is a trust model in insurance?

- Insurance works on the principle of pooling the risk of policy holders.
- In case of the trust model, the state government sets up a trust to perform the role of an insurance company and the government fixes the price, hence there is no price discovery.
- The premium to be paid by the Centre/states is put into a trust and payments for medical treatment are paid out of this.
- The trust is run by the state government.
- In the insurance model, the state floats a tender and the insurance company is selected on the basis of the ensuing bidding process.
- The Centre had given both options to the states in the case of Ayushman Bharat scheme.
- Some like Gujarat and Chhattisgarh have opted for a mixed model in which claims up to Rs 50,000 are dealt with by an insurance company and those above this by the trust.
- However, Uttar Pradesh and Bihar, had first opted for the insurance model, but later switched to the trust model.

What is the need for a trust model?

- **Costs** - The costs for a typical insurance company costs include –
 1. Designing insurance products to suit customer needs
 2. Actuarial input to assess and manage risk
 3. Advertising and marketing
 4. Empanelment of approved service providers such as hospitals
 5. Administrative expenses to provide prior approval of claims
 6. Processing, which includes functions such as fraud detection.
- However, of these, the first three are not applicable to programmes such as Ayushman Bharat which will be fully funded by the government as a blanket scheme.
- The last three functions are commonly outsourced to third-party administrators (TPAs) even by insurance companies.
- **Premium** - Governments continue to pay hefty sums in premium to insurance companies in India.
- A Study on the Aarogyasri scheme introduced in undivided Andhra Pradesh showed that the bid by insurance companies on such health schemes included a 20% margin for administrative expense and profit.
- By avoiding insurance companies and using TPAs instead, governments can save about 15% or up to ₹6,000 crores per year.
- These savings will continue to rise due to rising premiums from the schemes.
- **Profits** - Premiums paid to the insurance companies are transferred at the beginning of the year from the government.
- Thus, there is an opportunity cost for these companies from this, which at current interest rates could amount to around ₹2,000 crores a year.
- The study also found the claim-to-premium ratio and customer satisfaction to be better in the trust mode than the insurance mode.
- It would also prevent exorbitant profits accruing to insurance companies in good cropping seasons as in 2017-18.
- **Re-insurance** –A reinsurer is a company that provides financial protection to insurance companies.
- Reinsurers handle risks that are too large for insurance companies to handle on their own and make it possible for insurers to obtain more business than they would otherwise be able to.
- However, it is getting difficult to find reinsurers for government insurance schemes by the insurance companies, because of high claims.



- This is a problem that is being encountered by companies on schemes like the Pradhan Mantri Jeevan Jyoti Bima Yojana.
- All these have created the need for a trust based model in India.

What should be done?

- India is trying to promote more foreign direct investment and private sector participation in insurance sector.
- Hence, it is only fair to provide a level-playing field to both public and private sector insurance companies.
- Those who recommend the use of insurance companies allude that the government lacks the expertise to manage insurance.
- However, insurance companies are a redundant layer in the government's social security structure.
- The government has already proclaimed that it wishes to cut the intermediary through the JAM trinity (Jan Dhan-Aadhaar-Mobile) and direct benefit transfers.
- It has also indicated that it wants to optimise fund utilisation through the recently introduced Public Finance Management System.
- Thus, shifting to the trust mode will be the next natural step in this path.
- No insurance company has the kind of financial resources the Centre and the States have.
- Hence, governments must consider bearing the risk by themselves instead of using insurance companies as risk-bearers and intermediaries.
- This will not only save taxpayer money but will also benefit farmers and the underprivileged instead of insurance companies.

9.11 Expansion of Commodity Derivatives Trading

Why in news?

BSE and NSE have received permission from the Securities and Exchange Board of India (Sebi) for commodity derivatives trading recently.

What is a derivative?

- Derivatives are the contract whose value is derived from the underlying asset or the contract where delivery of security or commodity held on specific future date.
- The main purpose of commodity derivative is to reduce the risk of future price uncertainty and provide the industry knowledge as well investment opportunity to a general investor.
- Derivatives could be stocks, indices, commodities, currencies, exchange rates or the rate of interest.
- Till date, commodity derivatives contracts are available only on MCX and NCDEX, the two specialised commodity derivatives exchanges in the country.
- The Bombay Stock Exchange(BSE) became the first stock exchange in the country to launch commodity derivatives contract in gold and silver.
- Both BSE and NSE has plans to launch derivatives trading in non-agriculture commodities in the initial phase, followed by agriculture commodities.

What are the other such initiatives in this regard?

- SEBI has recently redrafted the rules for trading, membership, products and risk management.
- Market surveillance has also improved with tighter supervision and scrutiny.
- Domestic companies with direct exposure to commodity price risk in gold, gems and precious stones have been barred by RBI from hedging in international markets.
- This is likely to result in these companies using the domestic exchanges to take cover, thus helping domestic commodity derivative volumes.
- Also, all listed companies are required to disclose their commodity risk, hedged exposure as well as their risk-management policy.
- This is to make companies take greater cover for their commodity exposures due to the fear of investor displeasure, which could also help improve volumes on exchanges.

What should be done?

- **Agri-contracts** - Both exchanges are beginning their foray in this segment with bullion and energy-based contracts.
- SEBI needs to ensure that both BSE and NSE soon launch agri-contracts that serve farmers and companies in hedging price risks.

- **Pricing** - Exchanges often tend to use predatory pricing or other underhand methods to garner market share and it should be dissuaded.
- Also, SEBI needs to examine ways to bring down the high cost of trading in domestic exchanges.
- **Participation & Monitoring** - Increasing market participation by allowing other investor segments such as mutual funds into commodity markets should be looked out.
- A tight vigil needs to be maintained to ensure that there is no unhealthy competition among exchanges.

9.12 Falling Crude Oil Prices

What is the issue?

- The global Brent crude oil prices have fallen significantly in the recent weeks from \$86.29 to \$63.3 per barrel.
- With this, Indian petrol and diesel prices have also fallen slightly, while the rupee has strengthened against the dollar.

What are the driving factors?

- Trump's sanctions on Iran have not had a huge impact on Iran's oil production.
- This may be because Trump has permitted Iran's largest customers (Japan, China, and India) to continue buying oil temporarily.
- Importantly, Saudi Arabia and other major oil producers have been holding back production of oil since 2017.
- But these have now started to produce oil in ample amounts in order to ease consumer worries.
- Trump's pressure on Saudis to avoid production cuts has further pushed the price slump.
- Alongside, there is also a surge in crude output at three biggest producers - US, Russia, and China.
- Output has also risen in Libya, despite continuing warfare.
- It has also remained better than expected in Venezuela, another troubled country.
- Volumes of oil held in storage tanks around the world are beginning to build again.

What are the implications?

- The fall in prices has been a dramatic shift of sentiment in just about a month. Traders, thus, fear another supply glut amid dimming demand prospects.
- As, a protracted US-China trade war is seen as negative for oil demand.
- Car sales in China as well as India have also slowed this year, hurting fuel demand.
- The price fall reminds of the industry-rattling crash in 2014, a big worry for members of Organization of Petroleum Exporting Countries (OPEC).
- Notably, the economies of these countries are closely tied to oil revenues.
- **India** - Lower oil prices mean that India's oil import bill in 2018-19 would be lower than predicted before.
- This, in turn, would mean
 - i. less pressure on rupee
 - ii. narrowing current account deficit
 - iii. lower subsidy payout
 - iv. higher public resources for other welfare projects
 - v. lower risk of inflation
 - vi. increased room for RBI to cut interest rate
- The rupee, which was also hovering above 74 a dollar, has gained and is now below 72.
- Notably, variation in exchange rate by one rupee changes oil import by Rs 6,639 crore.
- These two factors of global crude oil prices and exchange rate are the major contributors to retail fuel prices in India.

How does the future look?

- Saudi has said production cut of about 1 million barrels a day from October, 2018 levels is needed to deal with current imbalance.
- Saudi Arabia will never let a glut build again in future.
- But it may struggle to persuade producers like Russia and Iraq to join in making cuts.
- Saudi has to balance between pressures from Trump administration for lower oil prices and its own economy's need for higher revenues.

- The OPEC is expected to decide on a supply cut of 1-1.4 million barrels per day when it meets next in Vienna in a month.

9.13 Significance of Prompt Corrective Action

Why in news?

In India there is a public debate regarding relaxation of the Prompt Corrective Action (PCA) norms imposed on 11 public sector banks (PSBs).

What is PCA?

- The PCA is triggered when banks breach certain regulatory requirements like minimum capital, return on asset and quantum of non-performing assets.
- To ensure that banks don't go bust, RBI has put in place some trigger points to assess, monitor, control and take corrective actions on banks which are weak and troubled.
- The process or mechanism under which such actions are taken is known as Prompt Corrective Action, or PCA.

What is the PCA plan of USA?

- The PCA framework is employed internationally by regulators as a form of structured early-intervention and resolution mechanism, designed to help banks regain health by preserving capital.
- The 1980s and early 1990s were a period of great stress and turmoil for banks and financial in situations all over the globe.
- In USA, more than 1,600 commercial and savings banks in sued by the Federal Deposit Insurance Corporation (FDIC) were either closed or given financial assistance during this period.
- The cumulative losses incurred by the failed institutions exceeded US \$100 billion.
- These events led to the search for appropriate supervisory strategies to avoid bank failures as they can have a destabilizing effect on the economy.

How RBI's PCA differs from USA?

- In the US, the PCA framework is based more on constrained discretion rules that are applied contextually.
- The PCA framework in India is more rule-based and hence more stringent.
- Regulators can be expected to employ their discretion advantageously when there is an opportunity for "learning by doing".
- Perhaps the US PCA framework encompasses more learning by doing and hence is less stringent.
- As far as provisioning is concerned, Indian banks are subjected to gradual age-wise provision for substandard assets starting from 15 per cent in the first year to 100 per cent in the fourth year, irrespective of whether collateral is available or not.
- In the US, provisioning norms are purely discretion-based and are provided for by banks as per estimated credit losses associated with the loan portfolio.
- In case of a commercial loan, the fair value of the collateral is taken into consideration to account for provisioning, if any.
- For a mortgage loan, only on 270 days delinquent, all mortgages are placed on non-accrual status only if the realizable value of the collateral is inadequate in servicing the loan value. In fact, if a mortgage loan is fully insured, it is not even placed on non-accrual status even after 90 days.
- While the FDIC triggers the PCA, based on bank capital threshold and leverage, the RBI's PCA thresholds also include asset quality and profitability.

What is the significance of RBI's PCA?

- RBI has set trigger points on the basis of CRAR (a metric to measure balance sheet strength), NPA and ROA.
- Based on each trigger point, the banks have to follow a mandatory action plan.
- Apart from this, the RBI has discretionary action plans too, the rationale for classifying the rule-based action points into "mandatory" and "discretionary" is that some of the actions are essential to restore the financial health of banks while other actions will be taken at the discretion of RBI depending upon the profile of each bank.
- Banks are not allowed to re new or access costly deposits or take steps to increase their fee-based income.
- Banks will also have to launch a special drive to reduce the stock of NPAs and contain generation of fresh NPAs.
- They will also not be allowed to enter into new lines of business, RBI will also impose restrictions on the bank on borrowings from interbank market.



9.14 RBI – Working of Surplus Transfer

What is the issue?

The current public tussle between the RBI and the government involves the transfer of RBI's dividend to the government as one of its issues.

How does the central bank generate profits?

- The RBI print currency as well as issue deposits (or reserves) to commercial banks and they are considered as its fixed liabilities.
- It also buys financial assets from the market.
- However, it does not pay interest on its liabilities.
- But the financial assets the RBI holds, like domestic and foreign government bonds, do pay interest and serves as an income for it.
- So the RBI pays nothing on virtually all its liabilities and get a large net interest income from the financial assets it holds.
- Also, the total costs of the RBI amount to only about 1/7th of its total net interest income.
- So it earns a **large surplus profit**, more than all the public sector put together, because of the RBI's role as the manager of the country's currency and this belongs entirely to the country's citizens.
- After setting aside what is needed to be retained as equity capital to maintain the creditworthiness of the RBI, the RBI board pays out the remaining surplus to the RBI's owner, the government.
- The RBI had made the largest ever dividend pay-outs to the government with 99.99% of its surplus in 2013-14, 2014-15 and 2015-16.
- After the RBI's risk analysis showed that its equity position of around Rs 10 lakh crore was adequate, the Bank's board decided to transfer its entire surplus to the government in 2015-16.
- Yet there were suggestions that the central bank should pay more, a special dividend over and above the surplus it generates.
- However, there is a more fundamental economic reason why a special dividend would not help the government with its budgetary constraints.

What are the options?

- **To RBI** - Much of the RBI's surplus comes from interest on government assets or from capital gains it makes off other market participants.
- In paying this to the government as dividend, the RBI is putting back into the system the money it has made from it and there is no extra money-printing involved.
- However, to pay an additional dividend to the government, the RBI has to create additional permanent reserves, i.e., print more money.
- The RBI takes note of growth rate of permanent reserves consistent with the economy's cash needs and the inflation goals every year.
- To accommodate the special dividend, the RBI can –
 1. sell government bonds to withdraw money from the public
 2. engage in open market purchases than it has budgeted.
- However, central banks are apprehensive of threats to their balance sheets because despite having the ability to discharge their financial obligations by creating money, sustained losses can weaken their ability to conduct policy effectively.
- Also, mounting losses can compel them to approach the government for capital infusion, which they want to avoid in order to preserve their independence.
- Thus RBI has only limited options and there were no creative ways of extracting more money from it.
- **To the government** – The government already flagged the issue of surplus profits and capital in the annual Economic Survey.
- It has also felt that the building up of buffers such as the Contingency Fund and Asset Reserve by the RBI has been far in excess of what is required to maintain creditworthiness.
- But the government, on its part, should acknowledge its substantial equity position in the RBI and subtract it from its outstanding debt when it announces its net debt position.
- This will make them demand less from the RBI side and helps maintaining macroeconomic stability in the country.

How do other central banks maintain this balance?

- Almost all central banks are owned by their national governments, and have to transfer surpluses or profits to the Treasury.
- The **UK** has a formal Memorandum of Understanding on the financial relationship between the Treasury and the Bank of England.
- The entire net profits are passed to the government.
- The MoU is formally reviewed at least every five years, and there is a provision for an intermediate review in the event of changes to the risk environment.
- In the **US**, the Federal Reserve transfers all its net earnings to the Treasury.
- The Fixing America's Surface Transportation (FAST) Act made it mandatory for the Fed to transfer part of its surplus to the Treasury to fund spending on highways.

What should be done?

- The Indian economy is now too big and complex for the RBI to remain a subordinate office.
- The risk management framework adopted by the RBI board indicates the level of equity the RBI needs, given the risks it faces.
- Thus the dividend policy becomes a technical matter of how much residual surplus is available each year after bolstering equity.
- Hence, RBI's autonomy vis-à-vis the Finance Ministry is possible only when the central government reposes confidence and trust in the RBI.
- The RBI's longer-term view of macroeconomic management ensures an intrinsically varying perspective with the government.
- During the high-growth years of 2004-05 to 2008-09, voices in India demanding higher surplus transfers to the government remained muted.
- Aggression in demands for higher dividends now indicates that the government's fiscal position is under pressure comparatively.
- The government also invoked recently Section 7 of the RBI Act as the first step before issuing a directive to the RBI.
- Thus, the quantum of surplus transfer remains now as a major factor in defining the central bank's relationship with the government and a settlement has to be reached with both sides showing some flexibility.

9.15 RBI Board Meeting - Highlights

What is the issue?

- The meeting of the Board of Directors of the Reserve Bank of India (RBI) was held recently. Click [here](#) to know more on the Board.
- The outcome of the meeting gains significance in the backdrop of the tussle between the RBI and the Government.

What are the highlights?

- The central bank and the finance ministry appeared to put aside some of their differences to resolve some key issues.
- **Surplus** - It was decided to set up a committee to discuss the controversial issue of surplus reserves transfer to the government.
- The Board discussions were outside the purview of Section 7.
- **ECF** - The board decided to constitute an expert committee to examine the Economic Capital Framework (ECF).
- The membership and terms of reference of ECF will be jointly determined by the Government and the RBI.
- **Lending** - The Board also decided to consider relaxation of lending norms for banks under *Prompt Corrective Action* regime.
- The RBI's Board for Financial Supervision would study this issue.
- **Basel Norms** - The board decided to retain the CRAR (Capital to Risk (Weighted) Assets Ratio) at 9%.
- It has however liberalised the implementation of the capital adequacy norms under the Basel III norms.
- It agreed to extend the deadline by one year, for banks to set aside an additional 0.625% as capital conservation buffer (CCB).

- CCB is the additional capital that banks have to own beyond the mandatory minimum capital requirements.
- The postponement means banks have more time till 2020 to meet these norms.
- Stretching the implementation of the norms will release high-cost capital, thereby reducing borrowing costs.
- **NBFCs** - There was a demand from the government for special window of liquidity for non-banking finance companies.
- But the RBI appears to have convinced the government on this.
- It said that it was not essential at this point, with companies continuing to borrow money from the market.
- **MSME** - The board also advised that RBI should consider a scheme for restructuring of stressed standard assets of MSME borrowers with aggregate credit facilities of up to Rs 250 million.
- Restructuring stressed assets of mid-sized and small SMEs is likely to provide them a buffer.
- This would ease credit flow to MSMEs and address their credit concerns, when liquidity and cash flows have been squeezed.
- **Next meet** - The differences between RBI and the Government on other key issues are unlikely to be resolved soon.
- The next board meeting is thus likely to take up the equally contentious issue of the RBI's governance structure.
- It is also likely to consider PCA norms and the liquidity issue.

What The RBI Board Decided


RBI AND CENTRE TO JOINTLY FORM A COMMITTEE TO DECIDE ON THE TERMS OF SURPLUS TRANSFER TO THE GOVERNMENT

RBI to consider a scheme for restructuring of stressed standard assets of MSME borrowers with aggregate credit facilities of up to

₹25 CR

Capital requirements for banks retained at 9%, but relaxed deadline for maintaining capital conservation buffer by a year to **March 2020**

Capital requirements for PCA Banks to be decided by RBI's Board for Financial Supervision



What is the significance?

- The Board has played a significant role, in fact, for the first time in recent memory, from being just an advisory body.
- The decisions taken address the concerns of both the Centre and the central bank.
- The discussions balanced the need for enhancing credit flow as well as maintaining financial stability.

Quick Fact

Prompt Corrective Action (PCA)

- RBI has initiated prompt corrective action (PCA) in as many as 11 PSBs, which is primarily an action plan for weak and troubled banks.
- The RBI has put in place some trigger points to assess, monitor and control banks.
- The trigger points are on the basis of CRAR (a metric to measure balance sheet strength), NPA and ROA (return on assets).
- Based on each trigger point, the banks have to follow a mandatory action plan. RBI could take discretionary action plans too apart from these.
- It prohibits them from undertaking fresh business activities such as opening branches, recruiting talent or lending to risky companies.


Finding a way forward

What the Centre wanted from the RBI

- Aligning capital norms of banks to Basel levels
- Relaxation of Prompt Corrective Action framework on 11 PSBs
- Easier credit for MSMEs
- Transfer of part of the RBI's reserves
- Special liquidity window for NBFCs
- Fixing issues of governance in RBI

What the RBI Board meet has decided

- No change in Basel norms; deadline pushed back by a year for the last tranche
- Prompt Corrective Action on banks issue to be examined by RBI department
- Debt recast for MSME borrowers with loans of up to ₹25 cr. to be considered
- Committee to be set up to examine the Economic Capital Framework of RBI



Left undecided

- Special liquidity window for NBFCs
- Fixing issues of governance in RBI

10. INFRASTRUCTURE

10.1 Reviving Inland waterways

Why in news?

India revives its inland waterways for freight movement with a shipment of 16 containers owned by PepsiCo reaching the new multi-modal terminal at Varanasi.

What is the background?

- The push to revive the country's waterways as viable commercial freight corridors is one among the big-ticket infrastructure initiatives of the government.
- Rivers and canals were traditionally used in pre-modern India to transport humans and materials, and to carry out trading activity.



- Inland waterways started to decline with the advent of widespread road and rail networks.
- Long, slow voyages began to be considered incompatible with the faster pace of doing business.
- Also, presence of silt deposits led to channels becoming increasingly shallow and the commerce dried up in the traditional docks and ports.
- Hence to realise the maximum potential of this sector, the Inland Waterways Authority of India (IWAI) was established in 1986.
- Five waterways were identified by IWAI, but the investment in them remained inadequate.
- Between 1986 and 2014, India spent only Rs 1,456 crore on its inland waterways.
- In comparison, China invested Rs 1,09,000 crore from 2005-10, and Germany pumped in Rs 77,000 crore in its waterways in 2016 alone.
- However, India increased its investments to Rs 1,605 crore in this sector from 2014-18.
- The National Waterways Act, 2016 merged existing Acts to make a law to notify 106 National Waterways, including the existing five.

What is the potential?

- India has 14,500 km of navigable waterways in rivers, canals, backwaters, creeks, etc.
- About 55 million tonnes of cargo moves on waterways, but the activity is largely restricted to –
 1. The Ganga-Bhagirathi-Hooghly system
 2. The Brahmaputra
 3. The Barak river
 4. The rivers in Goa
 5. The backwaters of Kerala
 6. Inland waterways in Mumbai
 7. The delta regions of the Godavari and Krishna.
- Overall, waterways account for just about 3% of all freight movement in India, and the mode remains grossly underutilised.
- However, the same amount of energy can move several times more cargo (by weight) by water than it can move via rail or by road.

What are the constraints?

- There are multiple constraints in transporting men and materials perennially on inland waterway corridors.
- Periodic dredging is required to clear the silt that comes with the monsoon, so that adequate depth is maintained.
- Both fixed and floating terminals are needed at multiple points along the waterways.
- Many rivers are becoming progressively drier and many of those that retain adequate volumes are spanned by low bridges that would hinder passage of larger vessels.

What are the measures taken?

- The Jalmarg Vikas Project receives financial assistance from the World Bank to upgrade navigability on National Waterway 1 from Varanasi to Haldia, a distance of 1,380 km.
- The project seeks to develop a fairway of 3-metre depth in phases, at an estimated cost of Rs 5,369 crore.
- The project is intended to be completed by 2023.
- There are plans to develop three multimodal terminals along National Waterway 1.
- Apart from the one in Varanasi, being built for Rs 169.59 crore, there is one planned in Sahibganj in Jharkhand, and the third in Haldia.
- It also involves building a Farakka navigation lock for Rs 359 crore, to be completed by June 2019.
- The government has also tapped the National Clean Energy Fund and the Central Road Fund for the initiative, and has borrowed from the market by issuing government bonds.
- Along with that, two barges carrying 1,233 tonnes of fly ash were recently flagged off on river Ganga (National Waterway-1) from Kahalgaon power plant in Bihar.
- The barges will travel 2,085 km across multiple waterways to reach Pandu Inland Port in Assam.
- This could make our waterways establish themselves as possible for cargo transportation and make compete with other sectors.



- The journey also marks one of the longest hauls in waterways sector movement in India.
- The government called it a critical integrated movement through three waterways such as NW1 on the Ganga, the Indo-Bangladesh Protocol (IBP) route, and NW2 on the Brahmaputra.
- Also since August 2016, pilot movements have been carried out on various stretches of NW1.
- More than 15 voyages have been completed, including integrated movements through multiple waterways.
- The present journey is part of an effort by the government to resurrect the Ganga as a significant transportation artery.
- The terminal has been designed mainly for construction material, food grains, cement, and fertilisers.
- Thus the PepsiCo cargo shows that a commercial shipment can use Inland waterways as a viable, working route for transportation.

10.2 Rationalisation of road spaces

What is the issue?

Traffic situation in developing nations are becoming a matter of concern wherein big cities among them are running out of space around the world.

What are the concerns with developing nations?

- Many recent reports show that world's most congested places are dominated by emerging markets.
- Among cities in developed countries, only Los Angeles makes it into the top 15.
- Some of the world's worst traffic snarls are in South Asian cities such as Dhaka, Delhi and Karachi.
- Their problems are only likely to get worse as growing populations and rising incomes push already-straining transport networks to the limit.
- In emerging economies, many cities have reached the point where roads' carrying capacity is running out.
- There are about 40 registered vehicles for every kilometre of road in the US, France, Russia and Brazil, based on analysis of World Health Organization and Central Intelligence Agency data.
- On the other hand, emerging economies like Iran, Thailand, Vietnam and Indonesia run more than 200 vehicles per kilometre.
- However, number of accidents as a result of traffic jams is low in developing cities like Tehran, Bangkok, Ho Chi Minh City and Jakarta.
- Two factors are responsible for this manageable traffic in developing countries, atleast for the time being.
- First, fewer people own vehicles in poorer places.
- There are just 13 registrations per 1,000 people in Bangladesh, 30 in Nigeria, and 44 in Pakistan, compared with more than 500 in most wealthy countries.
- And when people in low-income regions do get their first vehicle, they tend to be motorbikes and scooters, which take up less space than passenger cars.
- However, both those mitigating issues are less helpful than they look, since as incomes rise, vehicle ownership rises too.
- Thailand, Vietnam and Indonesia have almost as many vehicles per head as the UK.
- For another, two-wheelers still require surrounding space to avoid collisions.
- Scooters and motorbikes on the move take up about half the space of a car.
- The release of exhaust fumes has already paved the way for motorbike bans implemented in parts of Jakarta and Manila and planned for the entire city of Hanoi by 2030.

What are the measures taken in this regard?

- One way of stopping the rise of private vehicle usage has been restricting vehicle usage itself.
- Road-space rationing programmes, which ban driving for some cars on particular days, have been implemented in cities from Manila and Mexico City to Bogota and Beijing.
- London charges for entry into the central city, which has a similar effect.
- Alternatively, car numbers can be limited by mandating special permits for car ownership and using auctions or lotteries to allocate a fixed quota.
- This special permit system was first established in the 1990s by Singapore.
- It has since spread to more than half a dozen Chinese cities, including Beijing, Shanghai, Guangzhou, Shenzhen, and even the comparatively sleepy outpost of Guiyang.

- Also, there are more free-market solutions like ride-sharing and autonomous driving which have attracted the most investments and interest in recent years.
- However, these aren't likely to make a decisive difference.
- Studies of ride-hailing services such as Uber and Lyft suggest they encourage some people to give up on owning their own vehicle.
- But it also tempts riders away from higher-capacity public transport modes.

What should be done?

- Autonomous vehicles could increase road capacity by using shorter stopping distances than would be safe with human drivers.
- But for the moment, such technology remains on paper, especially in the complex, dynamic streetscapes of emerging-world cities crowded with scooters, hawkers, pedestrians and livestock.
- Thus the solution that is likely to be the most effective in the long-term is an expansion of public transport.
- In particular, metro and suburban rail networks have to be promoted to remove traffic from roads altogether.
- The world will add about the same length of metro-rail tracks in the 10 years through 2022 as it built in the previous 150 years since the opening of London's Metropolitan Railway in 1863.
- China's metro systems have expanded at breakneck speed this century, and India is gradually catching up.
- Even laggards like Dhaka, Jakarta, Lahore and Lagos are finally building dedicated commuter-rail networks.
- The transportation systems in Beijing shows that a city can be able to meet the demands of transporting a fast-growing urban population.
- It has created road-space rationing, vehicle quotas and a brand-new metro system to accommodate their swelling populations without grinding to a halt.
- It serves as the showpiece capital of the most ambitious infrastructure-developer the world has ever seen.
- Thus, city governments elsewhere in the developing world should have a vision of the future to emulate the best models of the developed world in the transportation sector.

10.3 Rising Water Demand of Energy Sector

What is the issue?

The water demand for the energy sector is projected to rise and makes it necessary to report its water consumption in the coming years.

What is the situation of water crisis in India?

- The Composite Water Management Index (CWMI) by the NITI Aayog shows that 600 million people face high to extreme water stress in India.
- The water quality index report places India at a dismal 120 among 122 countries.
- It predicts that a persistent water crisis will lead to an eventual 6% loss in the country's GDP by 2030.
- A significant key to this stress is the vast gulf that has been predicted between the demand [1498 billion cubic metres (BCM)] and supply [744 BCM] of fresh water, by 2030.

How far is the power sector, water dependent?

- In its 2015 projections, the Central Water Commission (CWC) reported that the sector-wise requirement of water (drinking and domestic use, industry and energy) will rise steeply between 2030 and 2050.
- This is especially true in the energy sector, whose share of water consumed was 0.62% in 2010.
- This is pegged to rise up to 1.37% in 2030 and 8.98% in 2050.
- Thermal electricity accounts for more than 86% of India's total power generation.
- Analysis shows that 77% of these thermal power plants that are dependent on freshwater sources.
- Around 40% of them are installed in areas with high or extremely high water-stress.
- By 2030, more than 70% of India's existing thermal power utilities are likely to experience an increased level of water competition from agricultural, urban, and other industrial demands.
- As the power sector consumes more water, competition between power and the other thirsty players is only likely to increase.

What should be done?

- The CWMI raises three main issues related to data such as limited coverage, unreliable data and limited coordination and sharing between line departments.
- To rectify this, daily water withdrawal and consumption reporting should be mandated.

- These can be measured with existing technology and added into this reporting framework.
- Such information will also help in the implementation of the MoEFCC Notification, which mandates specific water consumption norms for existing and new thermal power plants.

How does the CWMI help in this regard?

- CWMI is expected to establish a public, national platform providing information on key water indicators across states.
- The platform will help in monitoring performance, improving transparency and encouraging competition among the states.
- This will, in turn, boost the country's water achievements by fostering the spirit of competitive and cooperative federalism among the states.
- Further, the data can also be used by researchers, entrepreneurs, and policymakers to enable broader ecosystem innovation for water in India.
- The CWMI noted that water-scarce States such as Gujarat, Madhya Pradesh, Andhra Pradesh, Karnataka, Maharashtra and Telangana are leaders in the Index.
- It notes that this is likely driven by necessity in the face of looming water shortages.
- Thus, water-energy nexus linkages, especially the metrics around power plant water withdrawal and consumption, have to be factored in while calculating the Index.
- This will help make the Index better and also the States to be better prepared on managing their water and power resources.

10.4 Challenges with Ban of BS-IV Vehicles

What is the issue?

- Supreme Court has ordered for complete ban of the sale and registration of Bharat Stage IV vehicles from April 1, 2020.
- But due to various practical challenges the Supreme Court's order has slipped under the public radar.

What is the Supreme Court's order on BS-IV vehicles?

- One of the best measures to improve air quality that Delhi government took last year was to advance the introduction of BS VI (a version of Euro 6) standard fuel in Delhi from April 2018.
- This is two years earlier than originally scheduled, while ensuring that the cleaner fuel doesn't cost more for users.
- By 2020, this cleaner BS-VI fuel is supposed to be available in the entire country, beginning with the Delhi suburbs of Haryana and UP from April 2019.
- The Court order now mandates that, from 2020, even vehicle engines will comply with the better emission norms.

What are the challenges with the rulings?

- **Fuel and Engine mismatch** - Currently, the cleaner fuel, used by the same old cars with their non-BS-VI compatible engines, gives less than half of the benefits it is capable of.
- **Less Manufacturing input** - The other challenge is pushback, likely from Indian automobile manufacturers, historically one of India's strongest commercial lobbies.
- Many Indian vehicle manufacturers don't seem to be getting ready for upgraded engines, much of which is still using even dirtier BS III grade fuel.
- **Pricing Factor** - New cars with BS-VI engines will clearly be more expensive.
- At the same time, demand for cheaper cars is always higher, so the resale market for BS-IV and older cars will be more robust.

What measures needs to be taken?

- Air knows no geographic boundaries, and with pollution increasingly being recognized as a national as opposed to a Delhi-only problem, the only way to get optimal benefit is to have both the fuel and engine on the same stage emission norms all over the country.
- Government and courts must make it clear to automakers that all new cars must have BS-VI compliant engines and that no extension of any deadlines will be entertained or permitted in this regard.
- The legislature, judiciary and executive must work together to ensure the pricing of newer cars and the existing fleet, alike.

- India should push for a law that mandates retrofitting modern particulate cleaning technology in existing vehicles to reduce tailpipe emissions at source.
- A simple “carbon cutter,” an indigenous solution, can be installed in tailpipes of all non-BS-VI vehicles.
- Carbon cutter filter less technology thickens microscopic PM2.5 particles to a denser form and collects this matter, which can be upcycled as ink or paint.

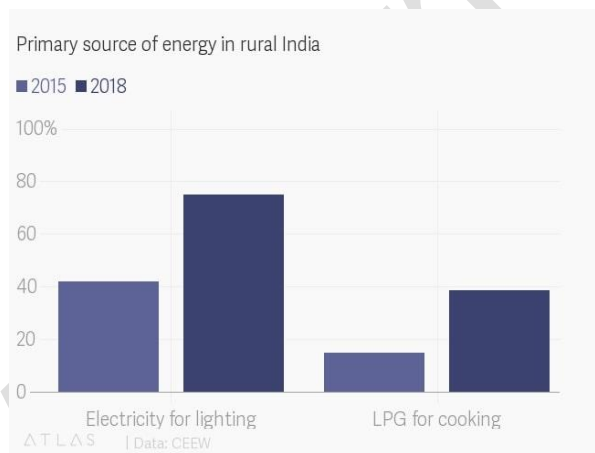
10.5 CEEW Report on Energy Access

Why in news?

Council on Energy, Environment and Water (CEEW) recently released a report on Indian villages’ access to energy.

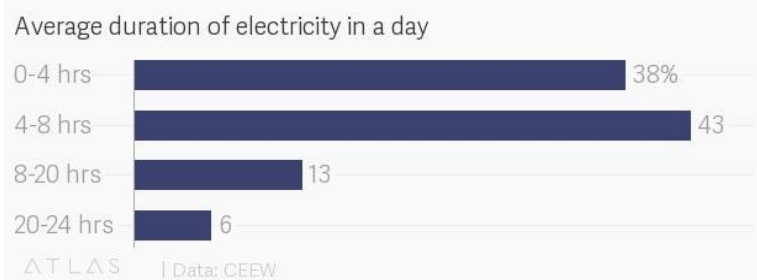
What does the report say?

- The survey was conducted in six of the country’s major energy-deprived states - Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Odisha, and West Bengal.
- It has found a strong improvement in Indian villages’ access to energy.
- **Towards Universal Electricity** - Electricity through the national grid is now the main lighting source for 75% of India’s rural households.
- In 2015, when the last round of the survey was held, most of this population was burning kerosene oil for light.
- **Cooking Fuel** - In the past three years, the number of rural households using LPG as primary cooking fuel has also more than doubled to 39%.
- Thus they have shifted from firewood to LPG as cooking fuel and from kerosene oil to electricity for lighting.
- The increase in rural energy access shows at least a partial success of the Ujjwala and Saubhagya welfare schemes.
- Saubhagya aims to connect every rural household to the national power grid.
- Ujjwala provides low-income families with free LPG connections.
- However, the survey report highlights several bottlenecks in these missions.



What are the concerns?

- **Affordability** - Traditional biomass such as firewood is available almost for free, and hence is the primary cooking fuel for 61% of the rural households.
- However, Indoor pollution from such stoves leads to 4 million premature deaths every year in India.
- These people suffer from respiratory illness, cardiovascular disease, and cancer, as well as serious injuries from scalding, burns, and poisoning.
- **Upfront Cost** – Even after Ujjwala scheme, 42% of the rural households have not acquired an LPG connection.
- They cite the high costs involved, both in setting up the connection and the recurrent expenses incurred in refills.
- Lack of awareness or an implementation gap, wherein local authorities illegally charging households for installing connections could also be the reason.
- **Gender factor** – Apart from a volatile rural income, most rural women do not have a say in determining when a refill is ordered, even though the connection is in their name.
- **Quality and reliability** - Most electrified households cite frequent power cuts, voltage fluctuations, and blackouts as prominent concerns.
- Over 80% of the rural households don’t get more than eight hours of electricity a day on average.



- However, the poor grid infrastructure is unlikely to be fixed anytime soon, given the state-owned power distribution companies' financial distress.

What should be done?

- People were unwilling to pay upfront ₹900-1,000 for a 14 kg refill but would pay about ₹300 for a refill, which is the price of refilling a 5 kg cylinder.
- The PMUY rules were thus amended to allow households to opt for two 5 kg cylinders instead of one 14 kg cylinder initially and shift to a 14 kg one after a few months.
- This will increase the household's willingness to pay for the fuel and they will get habituated to the convenience of cooking with LPG in the long run.

10.6 Relook at the BharatNet Project

What is the issue?

- Telecom Secretary recently asked the states to utilise the Bharat Net project's rural broadband infrastructure.
- Notably, Bharat Net has largely failed to deliver on its objective, calling for redressal of the shortfalls.

How has the progress been?

- Seven years have passed since the National Optical Fibre Network (rechristened BharatNet) project was first envisaged.
- The objective was to connect over 2.5 lakh gram panchayats through high-speed broadband.
- Already, 1.15 lakh gram panchayats have been connected.
- The physical execution of the project is scheduled to be completed by March 2019.
- However, when it comes to actual connectivity and utilisation, BharatNet has achieved little.
- This is despite thousands of crores of taxpayers' money having already been spent.

What are the shortfalls?

- The onus of preventive and corrective maintenance of the optical fibre portion connecting gram panchayats is with BSNL (Bharat Sanchar Nigam Ltd).
- The responsibility of remaining network elements lay with other agencies.
- Bharat Broadband Nigam Ltd was the special purpose vehicle created to execute the project.
- The lack of ownership by BSNL and inability of BBNL in ensuring timely project implementation has cost the nation a great deal.
- Though a clear utilisation target has already been set, the actual utilisation on the ground is well less than 10% of the target.
- Poor planning, lack of monitoring and co-ordination between the two organisations lead to ineffective implementation.
- It points to the lack of professionalism on the part of BBNL and BSNL.

Why is BharatNet crucial?

- Indian users are among the top consumers globally when it comes to adopting digitisation and online platforms.
- At the centre of this transition to a digital world is the availability of a reliable and affordable data network.
- Private telecom companies, including Reliance Jio, have announced plans to connect over 1,100 cities with optical fibre, which will cater to the urban consumers.
- But BharatNet is critical to ensure that rural India also benefit from the digital dividend.
- Besides this, BharatNet project is expected to -
 - i. attract billions of dollars in investments
 - ii. help train a million youth for new-age jobs
 - iii. facilitate delivery of e-governance, e-health, e-education, e-banking and other such services

What is to be done?

- The weak performance of the project calls for a complete overhaul of the BharatNet implementation machinery.
- Quick decisions are essential to fundamentally alter the direction of the project.
- State governments must be brought on board to ensure the project gets adequate support at the district and panchayat levels.



- Resources and energies would have to be mobilised for gram panchayats to be reached in the shortest possible time.
- The industry and government need to team up on projects aimed at bolstering communications infrastructure in the country.
- A thorough inquiry into the effectiveness and outcomes of the money already spent is also called for.

11. AGRICULTURE

11.1 Mechanisation of the Plantation Industry

What is the issue?

- The plantation sector (coffee, tea and rubber) is acclaimed for its rich heritage.
- However, the industry is at a crossroads in terms of financial sustainability, calling for mechanisation.

What are the feasible new techniques?

- India is 50-100 years behind Japan in terms of mechanisation.
- There is a need for changing the mindset towards mechanisation as being anti-yield and anti-quality.
- Precision in harvesting through mechanisation is an opportunity for increasing crops and reducing costs.
- With the help of a continuous withering system, assembly line concept in tea harvesting and manufacture can be achieved.
- Automation in fertiliser application has appreciable prospects in terms of optimisation of dosages and effectiveness.
- The potential of drones will lie in pest surveillance with simultaneous spot application.
- Breeding must undergo fundamental changes as incremental yield increases are no longer enough.
- A mechanised green leaf factory in case of tea, as in the Japanese model, is a good target to pursue.
- Use of digital technology in improving real time controls of process parameters will enhance quality and reduce cost.
- This can be used with specific reference to temperature, moisture and grade recovery.
- Convergence of mobile phones, bluetooth and sensors offers a wide range of control opportunities and can be a low-cost alternative.

What is the case with prices?

- **Tea** - Low price discovery (vis-a-vis end consumer price) is the single biggest threat to the tea industry.
- Successful marketers no longer need to be producers; in fact, it becomes a burden.
- So rationalisation of supply through quality upgradation by producing speciality products is the way to go.
- Speciality products by virtue of higher end consumer price will automatically give a better primary farmgate price.
- Therefore, grade and product differentiation is the key as certain higher grades produced in small quantities, have high demand and offer high value.
- **Coffee** - In coffee, separation of ripe and semi ripe berries offers quality improvement avenues.
- This is coupled with mucilage (a layer surrounding the coffee seeds with a sticky, sugary substance) removal process.

What is the way ahead?

- Sustainability framework must be used as a consumer connect.
- The tenets of this framework include
 - i. good agricultural practices
 - ii. biodiversity management
 - iii. employee welfare
 - iv. safety at workplace
 - v. product safety
 - vi. livelihood of communities
- The plantation industry must learn to run the business with fewer people as shortage of manpower is an opportunity and not a threat.
- As, employee cost amounts to 65% of the cost of production (as against a maximum of 20% for other industries).
- So the need of the hour is to leverage the power of global technology and best practices.

11.2 Issues with Sugarcane FRP

What is the issue?

- In recent times sugarcane farmers are raising various demands to the sugar mills.
- The demands by the farmers will only add to a never-ending cycle of sugarcane arrears and problems.

What are the demands of sugarcane farmers?

- Farmers in south Maharashtra have demanded more money for this season's crop, beyond the fixed remunerative prices (FRPs).
- Farmers associations in this region has also announced that it will not let the mills operate until they agree to pay `200 per ton over and above the FRP of sugarcane.
- Irrespective of whether the deadlock gets resolved, this becomes another instance of sugar farmers demanding a further increase in the FRP promised to them and fixed by respective state governments.
- Some sugar mills in south Maharashtra have decided not to begin sugarcane crushing as farmers have demanded

What is FRP?

- The Fair and Remunerative Pricing is used in sugarcane industry to replace the MSP, it is based on the Rangarajan Committee report of reorganizing the sugarcane industry.
- The committee found that in the production of sugar 70% of the input cost is sugarcane.
- In FRP the farmer is paid 70% of the total turnover of the company if only the sugar turnover is considered and 75% of the total turnover if other products like bagasse and molasses etc are also considered.
- This FRP method is useful in times when the sugar prices are high but the FRP method ask the sugar companies to pay the farmer the MSP for sugar when the sugar and hence sugarcane price is low.

What are the concerns behind FRPs?

- FRPs would adversely affect the financial health of the sugar factories in times of low sugar prices where the companies has to pay the MSP even though the sugar prices are low.
- The FRPs are not market-based and are priced at artificially inflated levels by governments.
- This, in turn, puts pressure on the sugar mills who have to purchase the crop from the farmers at these inflated FRPs.
- And while the government has raised ethanol prices dramatically to help sugar mills find an alternative source of demand to pay for the excessively priced sugarcane, once oil prices fall to reasonable levels, oil PSUs won't be able to afford the ethanol.

What lies ahead?

- India's government-mandated cane prices are already 70-80% higher than those of Brazil, the world's largest supplier—while this means India cannot export sugar, nothing has been done to signal to farmers that they need to move away from sugarcane production (as portrayed by them continuously increasing the FRPs).
- Further, this demand by specific farmers for the extra payment of 200 over and above the FRP will also burden the mills even more.
- In Maharashtra, sugarcane is grown on 4% of the land but uses two-thirds of the water.
- What is needed is an efficient crop growth pattern, one that ties the crop to be grown with the amount of water it requires in an area whose water resources can sustainably support such water usage.
- Only such a policy will result in the mills and farmers emerging happy out of this endless cycle of price and arrear increases.

11.3 Rising Pulses Prices

What is the issue?

- Kharif pulses prices are rising after a gap of two years, due to production dip.
- It calls for policy measures to reconcile producer as well as the consumer interests.

How did it evolve?

- Generous increases in procurement prices led to a spike in pulses acreage and output in 2016-17 and 2017-18.
- E.g. tur MSP has been raised by about 30% from 2014-15 to 2017-18, to Rs. 5,675 per quintal now
- Moong MSP was raised 25% to Rs. 6,975 over the last year, and chana MSP too was up 10% over this period.
- However, the resulting rise in output led to prices falling way below these MSP levels, affecting producers/farmers interests.



- Also, drought conditions are prevailing in Maharashtra, Karnataka, Andhra Pradesh and Gujarat.
- These have impacted the standing crop of tur, urad and moong.
- As a result, tur prices have crept up from Rs. 3,500-3,600 a quintal in mid-October, 2018 to about Rs. 4,500 now.
- Kharif pulses output has come down to 9.22 million tonnes this year, against 9.34 million tonnes last year.

What are the challenges?

- Being a protein-deficient country, it is essential to sustain producer interest in pulses cultivation.
- A shift from cereals to pulses is also critical to correct the nutrition imbalance, and water and fertiliser use over time.
- However, recent reports suggest that a production dip in kharif may well extend to rabi pulses.
- As, the area sown in Karnataka and Maharashtra are falling over the year-ago period.
- Two good crop years have, however, ensured an inventory build-up in pulses of over three million tonnes.
- Hence, an inordinate spike in prices does not seem very likely.
- While favourable for the consumers, it is certainly not so for the producers.
- The policy challenge is thus to balance both the interests.

What could be done?

- The key is to develop a procurement infrastructure in coordination with the States.
- Also, use of real-time data is advisable to calibrate procurement in order to smoothen out price volatility.
- While procurement agencies are clearing stocks to make way for arrivals, they should ensure price stability.
- The recommendations of the Arvind Subramanian committee on pulses should be implemented.
- These include
 - i. removing stock limits and curbs on exports
 - ii. allocating an additional Rs. 10,000 crore for pulses procurement
 - iii. raising MSP for tur and urad to Rs. 60 a kg
 - iv. creating a new institutional arrangement for pulses that facilitates coordination between all stakeholders

11.4 Irrigation Potential and Drought - Maharashtra Case

What is the issue?

- Announcing that the state has suffered a drought in 2018, Maharashtra has sought a relief of Rs 7,000 crore from the Centre.
- This has raised several questions on the effectiveness of the existing agricultural programmes in the state.

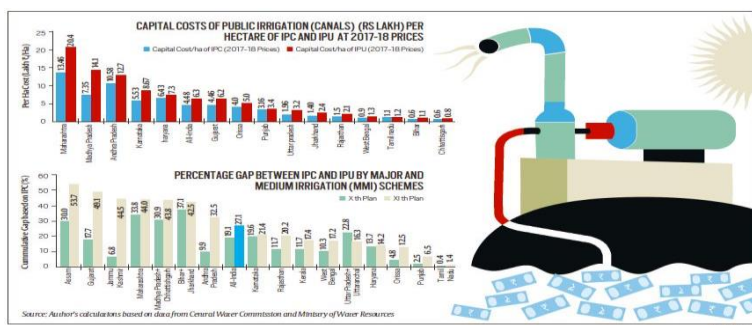
Why is drought relief from Centre questionable?

- **PMFBY** - The Pradhan Mantri Fasal Bima Yojana (PMFBY) was supposed to compensate farmers in case of a drought year.
- So the state approaching the Centre for relief despite having crop insurance in place becomes illogical.
- **Investments** - The state had been making massive irrigation investments over the years in drought-proofing its agriculture.
- All these have failed to make an effective impact in making agriculture remunerative, again burdening the Centre.
- **Other states** - The other states that have suffered similar drought also need attention.
- E.g. during 2018 monsoon (June-September), Maharashtra's Marathwada region received 22% lower rainfall than normal and Madhya Maharashtra was only 9% below normal.
- In comparison, rainfall in the Gujarat region was 24% below normal; in Saurashtra and Kutch region, it was 34%.
- In Rajasthan it was 23% below normal; and, in North Interior Karnataka, 29% below normal.
- Bihar, Jharkhand, Assam, Meghalaya, and Arunachal Pradesh too experienced deficiency of more than 20%.

- Thus, if Maharashtra is to be compensated for drought, the other states should also be approaching the Centre for relief.

What is the public irrigation scenario?

- Public expenditures on irrigation cover primarily canals through major and medium irrigation schemes (MMI).
- The capital costs of canal irrigation in certain states during the 2002-03 to 2013-14 period reveal a certain trend.



- Graph 1 gives the state-wise capital cost of public irrigation (canals, primarily through MMI schemes).
- Here, Maharashtra tops the list with Rs 20.4 lakh/ha of irrigation potential utilised (IPU).
- Notably, the all-India average cost is just Rs 6.3 lakh/ha of IPU.
- The costs per ha of irrigation potential created (IPC) are somewhat lower.
- Nevertheless, the highest is for Maharashtra at Rs 13.5 lakh/ha.
- Engineers and contractors are quick to announce IPC after construction of reservoirs and main canals.
- However, farmers benefit only when this potential created is converted to potential utilised.
- The utilisation parameter is to be ensured by the Ministry of Agriculture and Farmers' Welfare.

What is the concern with Maharashtra?

- Maharashtra witnesses high costs of public irrigation, which is due to several regional and administrative reasons.
- They include the tough topography, the widening gap between the IPC and IPU, and rampant corruption too.
- The profitability in crop cultivation from public irrigation hardly matches with the opportunity cost of public irrigation.
- E.g. let Rs 20 lakh be the sum equivalent to the cost of public irrigation on IPU basis.
- Consider this being given to each farmer on per ha basis as long-term bonds with a fixed interest of say 8% per annum.
- In this case, the farmer would have got a net annual income of Rs 1.6 lakh without any risk.
- But if that sum is actually invested in public irrigation, farmers are less likely to make Rs 1.6 lakh/ha as the net income.
- So clearly, the benefit cost (B/C) ratios of most of these projects do not justify these projects.
- But, as the system functions, the B/C ratios are highly inflated in feasibility reports to justify starting several projects.
- Resultantly, investments are made, but hardly any ex-post analysis is done to check the outcome.

What lies ahead?

- Public irrigation needs major overhauling in the country, especially in states like Maharashtra.
- Transparency and accountability in terms of benefits and costs are essential to make worthy the irrigation investments.
- Also, the issue of massive inequity in the distribution of irrigation water has to be addressed.
- E.g. in Maharashtra, about 19% of gross cropped area is irrigated. But it is 100% in case of sugarcane, and just 3% in case of cotton.
- The government should distribute irrigation water from public canals more equitably amongst farmers, on per ha basis.
- This could lead to efficient cropping patterns with respect to water and materialise the goal of “more crop per drop”.

12. SCIENCE & TECHNOLOGY

12.1 LIGO to Publish Paper on Analysis Techniques

Why in news?

- The LIGO (Laser Interferometer Gravitational-Wave Observatory) Scientific Collaboration detected gravitational waves in 2015.

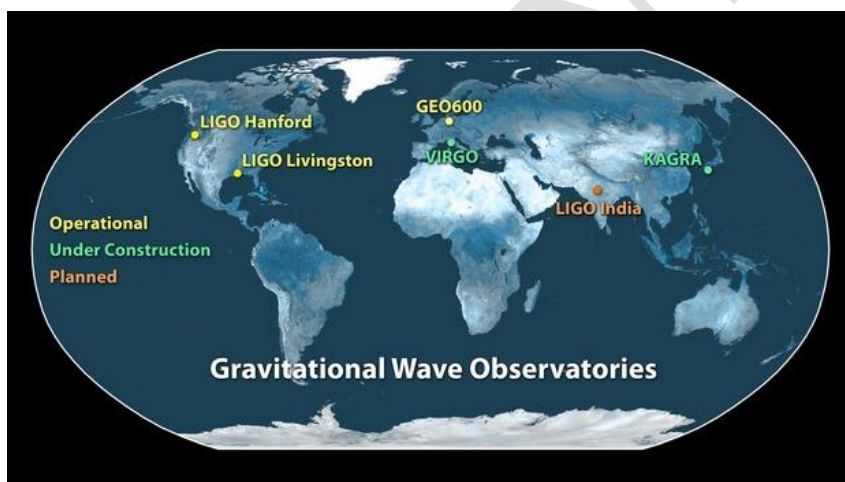
- It has recently announced that it would publish a detailed explanation of how it analyses the noise in its detectors.

What was the 2015 discovery?

- Gravitational waves are ripples in the fabric of space-time, arising from the merger of a pair of black holes in distant space.
- LIGO's 2015 announcement of the discovery of gravitational waves was an exciting finding in physics for decades.
- The discovery confirmed a prediction made by Einstein.
- It stated that space-time itself can squeeze and stretch in rhythmic waves, when deformed by cataclysmic events like collision of black holes.
- The collaboration's founders were awarded the Nobel prize in physics in 2017. Click [here](#) to know more.

What were the further observations?

- Since detecting the binary black hole (BBH) merger, the LIGO Scientific Collaboration (LSC) has made six such observations.
- Five of these were mergers of black holes in very different locations in space and with very different characteristics such as mass.
- Another was the merger of a pair of so-called neutron stars (binary neutron stars).
- The last few detections have been done in conjunction with another detector, Virgo (Italy-based).



What is the need for LIGO's explanation now?

- Challenge** - LIGO's detectors aim to measure a shortening of space equivalent to about a thousandth of the width of a proton.
- This sort of measurement is swamped by natural thermal vibrations, known as noise.
- This makes picking out the signal from a gravitational wave tricky and challenging.
- The collaboration thus used sophisticated analysis techniques to remove this noise.
- Also, after the first discovery, the LSC made public its data on these techniques.
- Dispute** - Analysing the data, in 2017, a group of scientists questioned the validity of the first detection.
- Weeding out noise from the signal is crucial in any such experiment.
- Some claimed that this had not been done properly by the LSC.
- They argued that the two detectors belonging to LIGO were correlated and that this led to a correlation in the noise factor.
- Other scientific investigations also uncovered a number of irregularities in the data.
- LSC** - After a long silence, recently, the LSC has thus put up a clarification on its website.
- The LIGO collaboration is learnt to be in the process of preparing their paper clarifying their approach and explaining the analysis techniques.

WHAT IS LIGO?

The advanced Laser Interferometer Gravitational Wave Observatory (or LIGO) is at the centre of the path-breaking find:

The LIGO experiment is an example of extreme engineering chasing an impossible dream

The twin LIGO installations — one in Livingston, Louisiana, and the other in Hanford, Washington — are located 3,000km apart



Two "blind" L-shaped detectors with 4km long vacuum chambers that can accommodate 11 Boeing 747-400 commercial airliners



When a gravitational wave comes through, it stretches space in one direction, and squeezes space in the other direction



By measuring the interference of the laser as they bounce between the different points, physicists can measure very precisely whether the space in between has stretched or compressed

- Built 3,000km apart, operating in unison
- To make the smallest measurement ever attempted by science — a motion 10,000 times smaller than an atomic nucleus
- Caused by the most violent and cataclysmic events in the Universe occurring millions of light years away
- Can detect gravitational waves in a volume of 1 billion cubic light years — covering about 1 million Milky Way type galaxies

- To detect a gravitational wave we should be able to tell when something changes in length by a few parts in 10 to the power 23
- LIGO makes the smallest measurement ever attempted — a motion 10,000 times smaller than an atomic nucleus
- It's like trying to hear a song being hummed in a very, very noisy party

12.2 GSAT-29 Launch - GSLV Mk III D2

Why in news?

ISRO successfully launched GSAT-29 communication satellite on board GSLV-Mk III D2 from the Satish Dhawan Space Centre at Sriharikota.

What are the key features of GSAT-29?

- With a mission life of 10 years, GSAT-29 is the 33rd communication satellite built by ISRO.
- GSAT-29 is a multi-beam, multiband communication satellite.
- Its payloads are designed to mainly focus on connectivity to the users in the hilly and geographically inaccessible areas.
- Weighing 3,423 kg at lift-off, GSAT-29 is the heaviest satellite to be launched from India.
- It will be placed in a geostationary transfer orbit.
- At its closest point it will be 190 km above the Earth, and at its farthest it will be close to 36,000 km above the Earth.
- GSAT-29 also carries a Geo High-Resolution Camera to aid in high-resolution imaging.
- For the first time, an optical communication payload will be utilised for data transmission at a very high rate.
- ISRO's Master Control facility at Hassan, Karnataka takes over the command and control of GSAT-29 soon after its separation from GSLV Mk III - D2.
- It will be manoeuvred into a geostationary orbit, its final destination, in days.
- Once placed, the satellite's solar panels and antennae will unfold and work will begin.
- **GSLV MK III** - The Geosynchronous Satellite Launch Vehicle Mark III is a three-stage heavy lift launch vehicle, weighing 640 tonnes.
- The first stage has two boosters with solid propellant, and the second is the core with liquid propellant.
- The cryogenic engine forms the final stage.
- The GSLV Mk III is the heaviest launch vehicle made in India.

What is the significance?

- The GSLV-GSAT launch enhances India's capacity to meet its communication needs.
- Both launcher and satellite have certain characteristics that make them unique.
- The launcher can carry payloads up to 4 tonnes to the geosynchronous transfer orbit and up to 10 tonnes to a low-earth orbit.
- The launch shows that ISRO has developed the capability to lift four-tonne payloads using its new GSLV Mark -III rocket.
- The GSLV-III is also likely to be used in the Chandrayaan-II mission in the early months of 2019.
- The multi-band, multi-beam satellite can cater to the communication needs of people in Jammu and Kashmir and the Northeast.
- **GSLV MK III** - The first successful experimental flight of the GSLV Mk III was in 2014 when it carried a dummy crew module as a payload.
- Its first developmental flight was on June 5, 2017, when it launched GSAT19, weighing 3,136 kg.
- The present launch marked the second developmental flight (D2) of the Mk III.
- With these two successes, the developmental phase of the GSLV Mk III vehicle programme will be complete.
- The launcher is declared 'operational' and joins the ranks of the working vehicles, the PSLV and the GSLV.
- This is far fewer than the number of developmental flights the older launch vehicles were subjected to.



- It sets the stage for trying out variations such as other types of engines, different fuel combinations and higher launch capacities.
- The GSLV Mk III has also restored morale at ISRO, which had been dented by the GSAT 6A setback.

12.3 Change in the definition of 'Kilogram'

Why in news?

The Definition of the Kilogram is about to change by redefining the International system of units(SI).

How does the measurement of kilogram evolve?

- There are seven fundamental units and every other unit of measurement can be derived from one or more of these seven units.

- Three of the seven fundamental units are already based on unchanging properties of nature.
- These are the second (time), the metre (distance), and the candela (luminous intensity, a measure for light's brightness).
- Hence, scientists want to create a measurement system that is based entirely on unchanging fundamental properties of nature.

THE SEVEN FUNDAMENTAL UNITS

UNIT	QUANTITY	HOW IT IS/WILL BE DEFINED
Meter*	Distance	Based on speed of light
Kilogram**	Mass	To be based on Planck constant
Second*	Time	Based on radiation of caesium-133 atom
Ampere**	Current	To be based on an electron's charge
Kelvin**	Temperature	To be based on Boltzmann constant
Mole**	Amount of substance	To be based on Avogadro constant
Candela*	Luminous intensity	From efficacy of light of specific frequency

*Current definition stands **Being redefined

- The first kilogram (originally called a grave) was defined in 1793 by a commission of the French Academy of Sciences, who wanted a better standard than the fixed amounts of grain that had traditionally been used.
- The commission decided that the new measure would be the mass of one cubic decimetre of distilled water at 4°C (the temperature at which water has its highest density under standard conditions).
- This had the advantage in that most properly equipped labs would be able to reproduce this standard.
- Subsequently, a prototype of this mass was cast in brass.
- Unfortunately, this definition/calculation of mass depended upon another variable measurement, the metre.
- At this point, the metre was only provisionally defined as part of the distance from the North Pole to the equator.
- However, once the value of the metre and the temperature of water at its densest were more accurately defined, a new prototype was cast in platinum to represent this mass(kilogram).
- These variable measurements were finally replaced with the international prototype kilogram (IPK), used today, which is a **metal** cast from a mixture of platinum and iridium to make it very hard and prevent it reacting with oxygen.
- Since 1889, countries who are members of the General Conference on Weights and Measures have agreed to use this standard block of metal kept near Paris to define the kilogram.
- This made the kilogram to be the only base unit in the SI still defined by a physical object.
- Six Copies of the IPK are transported across the world to ensure all participating countries use the same standard.
- But although this metal is stored in a highly controlled environment, its weight can change by tiny amounts as wear and tear causes it to lose mass and dirt causes it to increase.
- Hence, even the modern IPK to measure the kilogram can gradually change in mass.

What is the proposed measure?

- To address this problem, scientists around the world have spent nearly two decades discussing how the kilogram could instead be defined in relation to constant measurements of nature.
- So they decided that instead of measuring the kilogram against a block stored in a vault, it should be based on precise values of constants of nature.
- Thus the kilogram's definition is set to change and the new definition of the kilogram uses a measurement from another fixed value from nature, Planck's constant (h).
- Planck's constant will be defined as $6.62607015 \times 10^{-34}$ joule seconds and can be found by dividing the electromagnetic frequency of a particle of light or "photon" by the amount of energy it carries.
- The constant is usually measured in joule seconds but this can also be expressed as **kilogram square metres per second**.

- Since 1967, the second has been defined as the time it takes for a certain amount of energy to be released as radiation from atoms of Caesium-133.
- This became the basis of all measures of time, and is used in atomic clocks.
- The SI unit of the metre is also based on another universal constant, namely the speed of light.
- The metre is defined as the distance travelled by light in vacuum in $1/299,792,458$ of a second (which is already defined).
- Thus, since definition of a second and a metre have already adjusted to universal constants, by adding these measurements, along with an exact knowledge of Planck's constant, a very precise definition of the kilogram can be reached easily.

Does this redefining really help science?

- The change in definition of the second, previously, has helped ease communication across the world via technologies like GPS and the Internet.
- In the same way, the change in the kilogram will be better for technology, retail and health.
- For most people, everyday life will carry on as normal despite the redefinitions.
- One standard bag of sugar will contain as much sugar as it ever did.
- But some of these changes will mean practical advantages for scientists making very precise measurements.
- Thus, to answer the question how much is a kilogram, we will no longer have to compare blocks of platinum or worry about scratching them.

12.4 NASA's Mars InSight Probe

Why in news?

NASA's Mars InSight probe has reached its destination and touched down near the red planet's equator.

What is the objective?

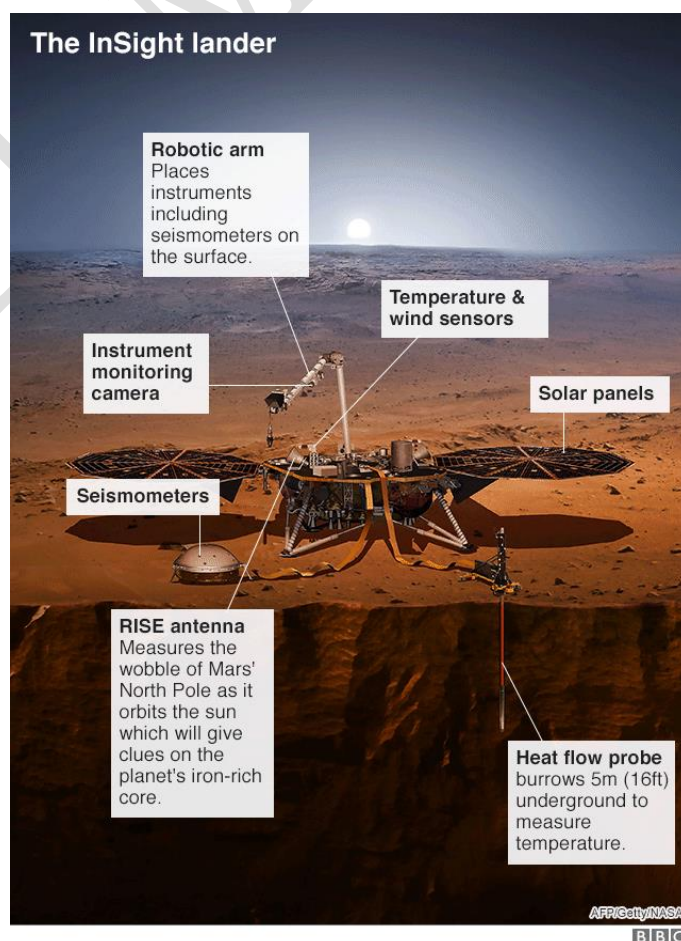
- InSight marks the 21st US-launched Mars mission.
- InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) is on a 24-month mission.
- It will not be looking for life on Mars.
- It will study its insides as to what it is made of, how that material is layered and how much heat seeps out of it.

Why Mars?

- Earth and Mars used to be similar - warm, wet and shrouded in thick atmospheres.
- But this was before they took different paths 3.4 billion years ago.
- After the event, Mars stopped changing, while Earth continued to evolve.
- They turned out so different - Mars cold and dry, Venus and Mercury burning hot, and Earth hospitable to life.
- With InSight, Earth would thus be compared to Mars, to better understand how a planet's starting materials make it more or less likely to support life.
- It is thus expected to study how Mars and other rocky worlds formed at the dawn of the solar system 4.6bn years ago.
- But notably, sending a probe to Mars, whether to land, orbit or fly past, is risky; only 40% of missions have succeeded so far.

How does it work?

- **Landing site** - The landing site is Elysium Planitia, where InSight can stay still and quiet all through.
- It is a vast, smooth lava plain that NASA calls "the biggest parking lot on Mars".





- This featureless, and hopefully quiet, landscape is well-suited for the mission, to map the interior of the planet.
- **Lander** - The lander (6m × 1.56m, deck height 83-108 cm) carries a robotic arm 1.8 m long.
- The lander will use a set of instruments to study the makeup and dimensions of the planet's core, mantle and crust.
- It is powered by two solar panels, and carries a seismometer, heat probe and a radio science experiment.
- Two complementary engineering cameras help with navigation and hazard avoidance.
- **Satellites** - Along with the spacecraft, a pair of mini satellites known as Mars Cube One, or MarCO also reached Mars.
- The satellites provided real-time updates of the spacecraft's supersonic descent.
- **Observation** - From Earth, NASA team will be monitoring radio signals using a variety of spacecraft and even radio telescopes on Earth.
- Signals will come from various sources -
 - i. the lander during descent
 - ii. two experimental briefcase-sized spacecraft called MarCOs that is flying behind InSight
 - iii. InSight itself after landing
 - iv. the Mars Reconnaissance Orbiter (MRO) spacecraft during descent
 - v. the 2001 Mars Odyssey (Mars orbiter) after InSight's touchdown

13. ENVIRONMENT

13.1 Pragmatic Steps towards Plastic Ban

Why in news?

From January 1, 2019, the government of Tamil Nadu will implement a limited ban on certain plastic consumer goods.

What is TN's plan on plastics?

- The ban is brought under the Environment Protection Act, 1987 and it would come into effect from January 1, 2019.
- This to allow people to change over to using paper bags and other products made out of paper as substitutes to the plastic items facing ban.
- The ban will be primarily on plastic carry bags, plastic plates, plastic cups, plastic flags, small plastic sachets used in packaging water, among others.
- A few plastic materials used for packing milk, curd, oil and medicines have been exempted from the ban.
- The ban would cover these plastic articles irrespective of the size of the micron.

What is the evolution of essential carbon?

- Before the 20th century, some of the carbon compounds available in nature were largely useful as food and to a smaller degree as fuel (being mostly wood and coal).
- These carbon compounds can be called "essential carbon" or EC, the consumption of EC has also increased over the last century due to increasing human population.
- In the 20th century, few of the carbon and carbon compounds acquired an additional dimension for humans.
- They were considered to be essential for enhancing the 'quality of life'.
- This pursuit led to an increase in the per capita consumption of carbon compounds (as fuel for transportation and heating, special chemicals and plastics) and the higher presence of carbon dioxide in air, despite the cushion, or carbon sinks, provided by the oceans.
- Carbon compounds used for enhancing the quality of life can be called "other carbon" or OC.

What is the role of EC and OC in the environment?

- The EC and OC, are closely associated with human and plant life. Living plants produce EC, continuously, by photosynthesis in which water and carbon dioxide are used up with the assistance of sunlight.
- Qualitatively speaking, the speed of production of EC, luckily, is greater than its consumption.
- The continued availability of EC is going to depend on the number of plant life around.
- OC, on the other hand, is produced by the decay of dead plant and animal life to coal, natural gas and oil over millions of years.
- OC is certainly not available at the present rate of consumption (in the last century major portion of available OC has already been consumed).

What measures needs to be followed in this regard?

- The tax on OC (GST or excise/VAT on plastics) should be increased many fold.
- Among the consumer plastic products those containing carbon, hydrogen, nitrogen and oxygen (such as polyester, PET and nylon) can be taxed at the lowest, as they are likely to pose much less harm in view of their potential to biodegrade.
- Then, polyethylene and isotactic polypropylene could be taxed at moderate level, as source segregation and incineration of these plastics under oxygen-rich conditions can be used to produce energy.
- These constitute about 50 per cent of the plastics produced and consumed by volume.
- Plastics containing halogens in their backbone must be taxed heavily as the damage caused by them is far more than that by hydrocarbon-based plastics.
- Plastics can also be taxed based on ingredients that are used as additives and established to be harmful.
- There are newer plastics (natural as well as synthetic) that are established to biodegrade.
- Although they are relatively expensive compared to the synthetic plastics that do not biodegrade, promoting them would offer long-term benefits.
- Given that people have gotten used to the advantages of plastics it may be more convenient to provide no-tax incentive for biodegradable polymers to begin with.

13.2 NGT ruling on INO Observatory

Why in news?

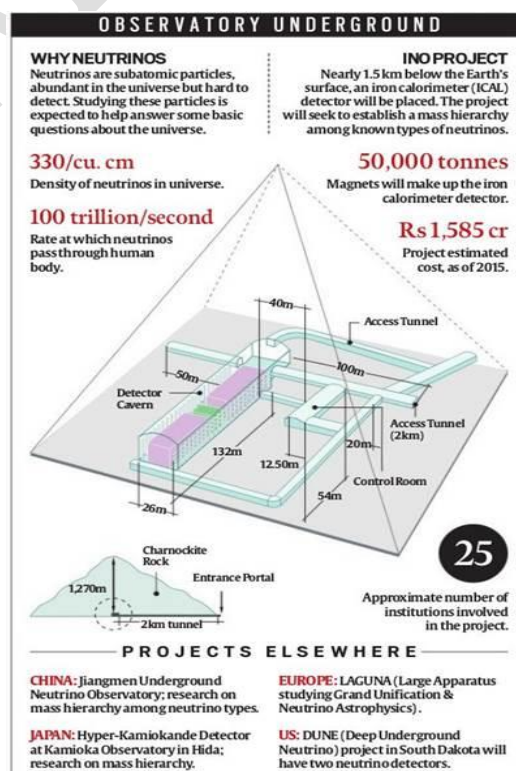
The National Green Tribunal (NGT) upheld the environmental clearance granted to the India-based Neutrino Observatory (INO) recently.

What does the ruling say?

- The application for environmental clearance was referred to Environmental Appraisal Committee (EAC) by the State Environment Impact Assessment Authority of Tamil Nadu as it preferred the centre to assess a project of this nature.
- Environment ministry (MoEFCC) gave the clearance on March 2018, but it was challenged in NGT by Pooulagin Nanbargal.
- The INO project was approved under **category B**, even though it is about to located near an eco-sensitive national park.
- Thus the organization objected to the category under which the project was cleared.
- However, the NGT held that the environment ministry has the legal and technical competence to assess the INO project and upheld the environmental clearance.
- The judgment states that it was correct on the part of the EAC and the ministry to appraise the project at their level.
- However, the court reiterated that the INO must also obtain approval from National Board for Wildlife.
- This is because the proposed site is about 4.9 km from Mathikettan Shola bird sanctuary bordering Kerala.
- Any major activity within 5km from any wildlife sanctuary requires a specific approval by the National Board for Wild Life.
- Also, NGT ruled that specific or general condition or recommendation made by the committees and expert groups on Western Ghats will be mandatorily made applicable in the current project of INO.

What is the INO project?

- It is a particle physics research project to primarily study the elusive sub-atomic particles called neutrinos.
- Neutrinos are extremely tiny elementary particles that are omnipresent in universe which carries no electric charge.
- It is considered to be the second most abundant particle in the universe after the photon, or light particle.



- Yet, they are very difficult to detect because they pass seamlessly through all kinds of matter, unimpeded and undetected.
- Its rest mass is almost zero (1 millionth of an electron).
- It interacts only via weak short range subatomic forces and gravity.
- Hence its detection needs high-end instruments and an environment that is effectively shielded from other radiant interference.
- Hence, a cavern is being carved out at the depth of 1,300 meters (4,300 feet) below the Western Ghats stretch in Bodi West Hills in Theni district for establishing the research site.
- An underground laboratory will be located there, nearly 1.5 km below the Earth's surface, where a giant neutrino detector is to be placed.
- The overhead rock will effectively shield it from natural cosmic radiation from outside.
- Many countries are carrying out research on neutrinos, believing that it holds important clues to some basic questions on the universe.

When will it operationalize?

- The original timeline had envisaged experimental work starting from 2017, later advanced to 2020.
- It is now unlikely to begin before 2025, even if construction starts next year.
- Construction of the underground facility would take at least 5 years and hence the project cost too is likely to escalate.

What are the challenges?

- **Environment** - It has had to move from its initially proposed location, because the nearby Mudhumalai National Park had been declared a tiger reserve during the same time.
- Hence this second site was selected.
- **Litigations** - The project has been mired in all kinds of trouble such as litigation, public protests, opposition from NGOs and political parties, including the recently ended litigation with NGT.
- **Red Tapes** - Bigger uncertainties in terms of government approvals, meanwhile, are still to come.
- The project applied for clearance from the National Board of Wildlife only in January this year and that approval is still awaited.
- Last year, the INO was told it would also need building approval from relevant state government agencies.
- The building plan is being prepared and an application is likely to be moved later this month.
- It is unclear how much time it will take to get that approval.
- The Tamil Nadu government, on its part, has taken its time deciding on approvals for the project.
- **Cost** - The Union government had, in 2015, approved a budget of Rs 1,583 crore for the project.
- That budget was based on cost assessments done in 2012.
- It is estimated the project would now cost at least 25% more than that amount.

Quick Facts

Categories under EIA

- The EIA Notification, 2006, broadly divides all projects into two categories, Category A and Category B, based on potential impacts over an area and on human health and natural and man-made resources.
- Accordingly, all Category A projects required to undertake EIA and a public hearing and its clearance are granted by the Union environment ministry.
- On the other hand, Category B projects are given a clearance by state level authorities.
- Category B projects are further classified as B1 and B2.
- While projects under Category B1 also require an EIA and public consultation, those falling under B2 are exempted from requirements of both EIA and public consultation..

13.3 Human-Tiger conflict

Why in news?

The shooting of a tigress in Maharashtra shows that big cats were victims of human-tiger interface conflict.

How has the issue evolved?

- The six-year-old tigress, named Avni, is survived by her two cubs who are 10 months old.



- Of the 13 people killed in tiger attacks in the Pandharkawda divisional forest in over two years, at least five deaths were attributed to Avni.
- The first order to shoot T1 was issued in January but was stayed by the Nagpur bench of the Bombay High Court after the tigress was found to be moving with her cubs.
- The second order came after the three successive fatal attacks in August, leading to massive public outrage.
- The operation to capture or kill T1 and capture her cubs had been going on since then, making it one of the longest such in the country to capture or kill a tiger.
- The tigress was finally shot down recently.

What are the concerns with tiger protection in India?

- India is in a leadership position on the tiger front with almost 70% of the global tiger population.
- India pioneered tiger conservation with Project Tiger by conserving 2.4% of our geographical area as tiger reserves.
- However, our tiger reserves, national parks and sanctuaries exist only as small areas in a vast sea of human, cattle and unsustainable land use.
- The stakeholders are many here, from primary (local people) to secondary (government departments) and tertiary (business groups, semi-urban scape).
- Urbanisation and growth agendas alter landscape dynamics, which has a cascading effect on the ecological dynamics of wildlife.
- This results in ecological dislocation of sorts, wherein endangered wild animals like tigers either cause distress or land themselves in trouble.
- Our per capita forest is just 0.064 ha compared to the global average of 0.64 ha, which partly explains the forest resource dependency of a large number of rural people.
- India has 668 protected areas, which add up to 14% of her forest area and 50 of these protected areas are tiger reserves.
- But the concessions in our forests have caused overuse and abuse of resources.
- Loss of forest productivity in terms of forage for wild herbivores has meant that the bulk of our forests cannot sustain medium-sized wild herbivores like deer, mega herbivores like elephants or big cats like tigers.
- In fact, successive assessments have revealed that tigers are largely confined to their source areas (core areas of tiger reserves) and their fringes (buffers).
- The bulk of other forests in most of India's tiger states have practically lost their habitat value owing to excessive biotic pressure.
- Consequently, agriculture and cash crops beyond protected areas readily lure wild pigs and other preys, which in turn lure big cats.
- The inevitable outcome is "conflict of interface" between wildlife and humans, which cause distress to people.
- This "interface" is further influenced by urbanisation, rail and road transport infrastructure and intensive operations like mining or special economic zones which are part of the growth agenda in any developing country.

What should be done?

- Human-wildlife interface is here to stay and while there can be no "co-existence" with tigers or elephants, a "co-occurrence" agenda with a proactive management control is available.
- The National Tiger Conservation Authority (NTCA) has brought out several Standard Operating Procedures (SOPs) to deal with various challenges of the human-tiger interface.
- An incapacitated tiger or leopard has to be captured on priority.
- A prime animal straying close to human settlements requires active monitoring and translocation to suitable habitat as in the case of an orphaned tigress shifted from the fringes of Bandhavgarh to Satpura.
- This requires –
 1. 24×7 monitoring using technology
 2. Management of corridors
 3. Building up the frontline capacity
 4. Creating village teams for reporting wild animal presence
 5. Intersectoral portfolio at the landscape level akin to the "master plan" envisaged for an eco-sensitive zone.

- Human-tiger interface management demands proactive measures.
- One cannot allow a big cat to get habituated and then brutally eliminate it.
- The Avni story is a tragic end for our national animal, and a complete travesty of the responsibility reposed on foresters and wildlife experts.

13.4 California forest fires

Why in news?

California is suffering the aftermath of a most devastating wildfire in its history recently.

What are the reasons?

- Forest fires have been getting worse in California in recent years, both in terms of their destructive power and their size.
- Nine of the 10 biggest fires by area have taken place in the past two decades, according to the California Fire Service.
- Many experts point out that **climate change** has made things worse, leading to higher temperatures, lower humidity, earlier springs and changes in wind and rainfall patterns.
- The scale has been huge this year because of the hot, dry summer conditions persisting into the autumn.
- According to the US Drought Monitor, 18% of the state is currently experiencing severe drought, which is exacerbating the seasonal weather patterns that make it difficult to fight fires in the state.
- Experts have said that climate change is also making conditions more favourable for wildfires in the American West.
- This could be true since climate plays a vital role in determining fire patterns and intensity and, in turn, fire influences the climate system through the release of carbon.
- Researchers project that moist, forested areas are the most likely to face greater threats from wildfires as conditions in those areas become drier and hotter, becoming more flammable.
- Add to this is the fact that winter seasons, when it rains or snows, are getting shorter.
- California has two fire seasons, wherein the first is from June to September, which is driven by warmer, drier weather in Western California.
- The other is from October to April, which is driven by strong gusts called the Santa Ana winds in Southern California.
- These winds spread three times faster and burn closer to urban areas.
- A report by the US Department of Agriculture in 2010 noted that by that year more than 11 million people out of a population of some 37 million in California were living in such areas and flagged the fire risks this posed.
- This made more and more people to move out of the main urban centres and into rural or semi-rural areas.
- Also, houses are often built of combustible materials such as wood.
- California state law does require homeowners to take steps to protect their properties from fire hazards, including clearing or reducing vegetation near properties.
- However, lack of public awareness, enforcement and the availability of up-to-date information about the areas put those people at most risk.

Does forest management play a role here?

- California has always been prone to wildfires every dry season.
- However, the US President recently attributed the cause as the result of forest mismanagement, though many scientists have linked it to climate change.
- Nearly 60% of California's forested areas are managed by national agencies such as the US Forest Service, the Bureau of Land Management and the National Park Service.
- There is a significant amount in private hands as well.
- The actual amount managed by the California state authorities is small, but the California Department of Fire and Forestry Protection is responsible for putting out fires and prevention measures in privately owned areas.
- Hence, concerns have been voiced about whether there has been enough emphasis on longer-term fire prevention.
- There is also a demand on sensible management of the environment and better land use to avoid catastrophic burning.

- There are also large number of dead trees in parts of the state, due to drought and disease, which poses a serious fire risk that needs to be addressed.
- A report by an independent state oversight agency already outlined recommendations such as increased prescribed burning and dedicating more money and jobs toward forest management in California.
- However, it has been pointed out that the recent fires have started in open scrub or grassland rather than in forests.
- Hence the blame on forest mismanagement was criticised by some experts who say that the bigger picture of climate change and population shifts in the state was getting ignored.

What are the lessons for India?

- India's forests are also facing similar challenges.
- According to the 2017 State of Environment Report of the Centre for Science and Environment, there were 15,937 forest fires in India in 2015 and the number rose to 35,888, a 125% spike over two years.
- In 2017, the maximum number of forest fires were reported in Madhya Pradesh (4,781), followed by Odisha (4,416) and Chhattisgarh (4,373).
- A National Institute of Disaster Management report on forest fires says 50% of the country's forests are prone to fire.
- Such uncontrolled fires not only burn down the vegetation but also the surface organic matter, increasing the frequency of flooding and soil erosion.
- In addition, wildlife patterns and habitat are also disrupted.
- India's firefighting potential is not as good as it should be.
- **Estimation** - The statistics on forest fire damage are poor, and so it is difficult to arrive at accurate losses from the forest fires.
- **Allocation** - Nearly 46-65% of the money allocated under the forest management schemes has not been released in the last two years.
- This is despite the replacement of the Intensification of Forest Management Scheme with the Forest Fire Prevention & Management Scheme in December 2017.
- **Management** - The country lacks fire protection planning knowledge and incentive.
- Foresters still fight forest fires using outdated methods, when systematic modern fire management techniques and methods have been adopted in the rest of the world.
- India also doesn't have a strong and clear national policy on how to tackle forest fires.
- In the age of climate variability, such lack of preparedness can put India's forest wealth at a huge risk.
- Thus, India does need to take adequate measures addressing these issues to avoid California type catastrophe in the future.

13.5 Disaster Management - Cyclone Gaja

Why in news?

Recently, Cyclone Gaja made its landfall between Nagapattinam and Vedaranyam in Tamil Nadu.

How severe is the disaster?

- The impact was not considered to have been this severe in the initial days after the cyclone struck as the death toll was relatively low.
- But Cyclone Gaja is a major disaster, and its economic impact in Tamil Nadu is comparable to that of the tsunami of 2004.
- **People** - The suffering, the loss, and the displacement are of an enormous magnitude.
- People are distraught as houses have collapsed, farms lie ruined, water sources are contaminated and electricity supply remains disrupted.
- The Tamil Nadu government has estimated the number of people rendered homeless at 3.7 lakh, and houses destroyed at 3.4 lakh.
- **Livelihoods** - The cyclone has crippled agriculture and livelihoods, felling thousands of productive trees and killing livestock.
- The districts of Tiruvarur, Nagapattinam, Thanjavur and Pudukottai are the severely affected.
- These are the fertile Cauvery delta districts which are considered the granary of the state of Tamil Nadu.
- The cyclone swept in wind and water, destroying lakhs of trees.

- These include commercial coconut, banana, cashew, mango, jackfruit, casuarina, betelvine, eucalyptus, teak and sugarcane on thousands of hectares.
- Between 60% and 80% of the coconut trees in the region have fallen.
- Notably, these contribute a quarter of India's coconuts with the highest unit yield.
- Unlike paddy or many other crops, bringing coconut plantations back to life will take years.
- The paddy crop of the samba/thaladi seasons was also damaged in some places.
- Boats and huts of fishermen were destroyed. Nearly a lakh tonne of stocks in salt pans in Vedaranyam in Nagapattinam district were washed away.
- **Ecosystem** - The Point Calimere Wildlife Sanctuary, a Ramsar site (a wetland of international importance for conservation), was ravaged.
- Carcasses of blackbuck, spotted deer, feral horses and birds were washed on the shores of Karaikal in Puducherry.

How prepared was the State?

- Tamil Nadu was more prepared than before to deal with Cyclone Gaja.
- More than 15 years ago, efforts were on to professionalise disaster management through a dedicated national and State organisation.
- It appears to be paying off, with bureaucracies acquiring higher efficiency in terms of early warning and impact mitigation.
- The National Cyclone Risk Mitigation Project was started by the Ministry of Home Affairs.
- This has been working to reduce the impact of such catastrophic events on Andhra Pradesh, Odisha, West Bengal, Tamil Nadu and Gujarat.
- Notably, these are classified as States with higher vulnerability; most western coastal States are in the next category.



What were the impact and the State response?

- Cyclone Gaja took a toll of at least 45 lives.
- The severe cyclonic storm damaged infrastructure, property and agriculture.
- It has affected some southern districts, felling tens of thousands of trees and also 30,000 electricity poles along the coast.
- It also hit residents in some central Kerala districts.
- State Disaster Management Authority issued a stream of alerts ahead of the cyclone.
- It helped coastal residents move to camps and adopt safety measures.
- State's measures after the cyclone, to clear roads, remove fallen trees and repair power infrastructure and communications, helped restore some stability.
- Tamil Nadu's political parties have acted in a mature manner, keeping partisan criticism aside the relief and rehabilitation works.
- The government has to now secure without delay the financial relief.
- Rs. 10 lakh has been promised for families of the dead, besides the compensation for lost crops, trees and livestock.
- Also, provision of emergency health intervention and rehabilitation assistance to rebuild lives has to be ensured.

13.6 Air pollution report – WHO

Why in news?

The report on air pollution and child health was recently released by the WHO on the sidelines of its first ever global conference on Air Pollution and Health.

What does the report contain?

- About 93% of the world's children under the age of 15 (1.8 billion children) breathe polluted air every day that puts their health and development at serious risk.
- This includes 630 million children under 5 years, and 1.8 billion children under 15.



- Many of these children die, with as many as six lakh estimated to have died in 2016 alone due to complications from acute lower respiratory infections caused by dirty air.
- In low- and middle-income countries, 98% of all children under 5 are exposed to PM_{2.5} levels above WHO air quality guidelines and in high-income countries, the figure is 52%.
- Air pollution also impacts neurodevelopment and cognitive ability and can trigger asthma, and childhood cancer.
- Children exposed to high levels of air pollution may be at greater risk for chronic diseases such as cardiovascular disease later in life.
- It can damage children's lung function, even at low levels of exposure.
- Also, when pregnant women are exposed to polluted air, they are more likely to give birth prematurely, and have small, low birth-weight children.
- One reason why children are particularly vulnerable to the effects of air pollution is that they **breathe more rapidly** than adults and so absorb more pollutants.
- They also live closer to the ground, where some pollutants reach peak concentrations at a time when their brains and bodies are still developing.
- In addition, new borns and small children are often at home.
- If the family is burning fuels like wood and kerosene for cooking, heating and lighting, they would be exposed to higher levels of pollution.

Why the air pollution is high in northern India?

- Air pollution is choking several cities in the northern States, as changes in temperature and slowing winds trap soot, dust and fine particulate matter.
- Delhi's air quality was on the brink of turning "**severe**" recently, which falls in the 'very poor' category at that time.
- The System of Air Quality and Weather Forecasting and Research (SAFAR) also said the upcoming days are expected to see a sharp deterioration of air quality in Delhi-NCR.
- This is due to a western disturbance system in the north of India which is bringing moisture and a cyclonic system on the eastern side which is suppressing winds.
- There is also the increased burning of paddy straw in Punjab and Haryana, evident from images released by NASA, which brings the wind from the northwest.
- Its footprint may be growing because of wider use of mechanical harvesters that is producing more waste.
- Burning of agricultural residue also releases large volumes of smoke containing, among other pollutants, highly damaging fine particulates, or PM_{2.5}.
- All this, combined with Delhi-NCR's own pollution sources, could lead to a spike in pollution.
- The problem is aggravated by the burning of urban waste, diesel soot, vehicular exhaust, road and construction dust, and power generation.

What should be done?

- The **UNEP's** recent report pointed out that only 8% of the population in the countries of the Asia and the Pacific get to breathe air of acceptable quality.
- A study of degradation of Delhi's air over a 10-year period beginning 2000 estimated premature mortality to have risen by as much as 60%.
- With the steady growth in the population of the capital and other cities, the trauma is set to worsen.
- Although India has nine of the 10 most polluted cities in the world, it has not taken consistent action on pollution.
- Tens of millions live with ambient air quality that is well short of even the relaxed parameters the country has set for fine particulates, compared with those of the WHO.
- Hence, India should now give high importance to the WHO warning about air pollution.
- The 'severe' air quality rating for Delhi and poor conditions prevailing in other cities in the Indo-Gangetic Plain should compel a decisive shift in policy.
- The Centre and the State governments need to get into crisis mode to dramatically reduce emissions.
- They must address the burning of carbon, which is a direct source, and emissions with oxides of nitrogen and sulphur from vehicles that turn into fine particulates through atmospheric reactions.

- Failure to take sustainable and urgent measures will inflict long-term harm on public health, affecting children even more by putting them at higher risk for diseases.
- An innovative approach could be to use climate change funds to turn farm residues into a resource, using technological options such as converting them into biofuels and fertilizers.
- From an urban development perspective, large cities should reorient their investments to prioritise public transport, favouring electric mobility.
- Governments should make the use of personal vehicles in cities less attractive through strict road pricing mechanisms.
- Also, sharply escalated, deterrent parking fees can be implemented in crowded areas of the sprawling cities.
- Finally, public pressure must force governments to act, if they delay action on the critical issue of pollution control.

14. INTERNAL SECURITY

14.1 Greater Militarisation by Maoists

What is the issue?

Recent attacks by Maoists suggest that they are focussing on greater militarisation, which needs attention given the past record.

What are the recent developments?

- There has been an uptick in attacks by Maoists, indicating that their ability to strike remains strong.
- In two recent attacks in Chhattisgarh, five persons were killed in a blast in Dantewada district and one BSF sub-inspector was killed in Kanker district.
- Maoists have also owned up responsibility for the killing of TDP MLA Kidari Sarveswara Rao and his predecessor Siveri in Andhra Pradesh in September.

What is the emerging driving factor?

- These attacks come amid a series of military setbacks to the Maoists in the Andhra Pradesh-Odisha border regions.
- Government is using military force while earmarking funds for infrastructure and welfare programmes in left-wing extremism-affected districts.
- Clearly, this strategy of the government has weakened the Maoists.
- Also, paramilitary and police actions have resulted in the death of some senior leaders of the Maoists group.
- Welfare measures, despite haphazard implementation, have enabled outreach into tribal areas.
- These actions have forced the Maoists to retreat further into the forest areas of central and south-central India.
- They are using these as bases to launch attacks, seeking to invite state repression on tribal people and to get recruits.

How has the CPI (M) evolved?

- The People's War Group and the Maoist Communist Centre of India merged into the CPI (Maoist) in 2004.
- It managed to consolidate its presence across a "Red Corridor".
- It spanned across the central and north-central India, marked by rural deprivation.
- The CPI (Maoist) has sought to project itself as a revolutionary political movement led by peasants and tribals.
- It sought to rebuild after the failures of the earlier Naxalite movement.
- Rather than focussing on socio-economic struggles, the Maoists relied on waging a military battle against the state to capture power.
- But this was largely due to a gross and mindless misreading of the nature of the Indian state and its democratic institutions.
- As, these actions have resulted in the militarisation of these areas.
- It led to repression of tribal people both by state actions such as the creation of the Salwa Judum (disbanded by judicial order) and Maoist authoritarianism.
- The change of guard in the CPI (Maoist) leadership now suggests that it has moved towards further militarisation to secure its guerrilla forces' influence.
- So perceivably, there is no end in sight to this insurgency in the near term, a sad reality for tribals caught in the crossfire.

14.2 INS Arihant Launch - Strengthening India's Nuclear 'Triad'

What is the issue?

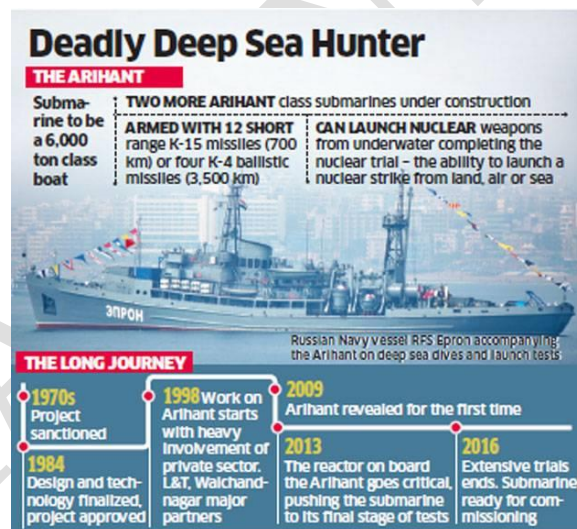
- India's first nuclear propelled submarine, INS Arihant, was recently announced to be operationally ready.
- With Pakistan's India-aimed nuclear doctrine and China's ambiguity, India needs to boost its nuclear arsenal.

What is India's nuclear vision?

- India earlier had the capabilities to launch nuclear weapons from the air, mounted largely on its Mirage 2000 and Jaguar Aircraft.
- The similar land based missile range from Agni 1 missile (range of 700-900 km) to Agni 5 Missiles (range of 5500 km).
- India's aim has been to develop a "credible nuclear deterrent" with capabilities to deliver nuclear weapons from multiple locations on land, air and sea.
- The targets are all strategic areas and centres in India's two nuclear-armed neighbours - China and Pakistan.

Why is INS Arihant significant?

- The Arihant provides India with a capability to hit either neighbour (China, Pak) from 300 meters under the sea.
- The sea-based missiles envisaged for this purpose are
 - the Sagarika with a range of 750 km
 - the K-4 with a range of 3500 km
- While land-based missile sites can be attacked and destroyed, a submarine-based deterrent is virtually secure against a missile attack.
- India is the only country having a sea-based nuclear deterrent, which is not a Permanent Member of the UN Security Council.
- India will soon operationalise a second nuclear submarine the "Arighat".
- It is expected to have a fleet of four such submarines by 2022.
- According to US Federation of Nuclear Scientists, India currently possesses 130-140 nuclear weapons, Pakistan 140-150 and China 280.
- While India tested its first nuclear weapons in 1998, Pakistan's first weapons test was in 1990, on Chinese soil.



What are the countries' nuclear principles?

- India** - India's nuclear doctrine stated that its nuclear weapons would only be used in retaliation.
- It could be against a major attack on Indian territory or on Indian forces anywhere, in which nuclear weapons are used.
- India also retains the right to use nuclear weapons in the event of major attacks in which chemical or biological weapons are used.
- Pakistan** - Pakistan, on the other hand, does not have a formal nuclear doctrine.
- However as stated before by its officials, Pakistan's nuclear weapons are "aimed solely at India".
- Accordingly, Pakistan would use nuclear weapons if India conquers a large part of its territory, or destroys a large part of its land and air forces.
- The possibility of nuclear weapons use if India tries to "economically strangle" Pakistan, or pushes it to political destabilisation also exists.
- Pakistan's statements in recent years have, however, indicated that it would not be averse to using tactical nuclear weapons in a conventional conflict with India.
- China** - China, like India, had proclaimed that it would not be the first to use nuclear weapons.
- But China has maintained a measure of ambiguity on whether its "no first use" pledge will be applicable to India.
- China's deliberate maintenance of this ambiguity is seen as a signal of its support to Pakistan on any of its nuclear exchange with India.
- Chinese ambiguity only adds to India's determination to strengthen its "Triad" of land, air and sea-based nuclear weapons.

What is China's role in Pakistan?

- It is said that the Chinese did a massive training of Pakistani scientists.
- Without China's help, Pakistan's bomb would not exist.
- China has also provided Pakistan the designs of its nuclear weapons.
- It upgraded Pakistan's "inverters" for producing enriched uranium in Kahuta.
- It provided it with Plutonium reactors and separation facilities, for building tactical nuclear weapons.
- Pakistan's ballistic and Cruise Missiles are also replicas of Chinese missiles.

What are the bureaucratic shortcomings in India?

- India has a well-organised nuclear command structure headed by the Prime Minister and Cabinet Committee on Security.
- However, India needs to address serious issues on the archaic structure of the Ministry of Defence.
- E.g. the key military figure in the Nuclear Command structure, the Chairman of the Joint Chiefs of Staff Committee, generally holds office for less than a year
- This is hardly the time adequate to become fully familiar with the complexities of India's Strategic Nuclear Command.
- There have been repeated proposals for appointment of a full time "Chief of Defence Staff", or "Chairman Chiefs of Staff Committee".
- S/he will hold charge of the Nuclear "Strategic Forces Command" and report to the political authority.
- But the proposals have gathered dust for years in the offices of the generalist bureaucracy of the Defence Ministry.
- Recommendations for such change even from the Parliament Standing Committee of Defence lie unimplemented.
- The present set up of the Defence Ministry thus needs to be drastically reorganised.

PRELIM BITS

ART AND CULTURE

Aipan

- It is a traditional folk art in the state of Uttarakhand.
- It is the traditional terracotta and white motifs drawn on floors and walls on ceremonial occasions.
- It consists of rhythmic geometrical patterns on a terracotta painted base.
- A tiny organisation is trying to revive the domestic interest in this traditional folk art.

Kartarpur

- Kartarpur, a place in Pakistan on the banks of Ravi River, is the final resting place of Guru Nanak, the founder of Sikh faith.
- It is where the guru lived the last 18 years of his life and holds a special place for the community.
- The original shrine was built in 1539 after the demise of Sikh guru.
- It is the place where Guru Nanak first started the tradition of Guru da langar (free community kitchen) and congregational worship.
- It is located 4 km from International border between India and Pakistan and it is visible from the Indian side at Dera Baba Nanak.
- Since partition in 1947, access to shrines in Nankana Sahib, Kartarpur and Panja Sahib was restricted in Indian pilgrims.
- Kartarpur sahib was finally reopened to Sikh pilgrims from India as an outcome of former prime minister Atal Bihari Vajpayee's visit to Pakistan in 1999.





- In 2000, Pakistan agrees to allow Sikh pilgrims from India to visit the shrine visa-free (and without a passport) by constructing a bridge from the India side of the border to the shrine.

Telescope to view Kartarpur Sahib

- The government has decided to install a high-powered telescope along the India-Pakistan border for devotees to view Kartarpur Sahib in Punjab.
- It is organized to mark the 550th birth anniversary of Guru Nanak Dev, the founder of Sikh faith.
- Kartarpur Sahib, one of the holiest shrines, is the final resting place of Guru Nanak.
- The telescope would be installed by the Ministry of Electronics and Information Technology.

Click [here](#) to know about Sikh Gurus

Qaumi Ekta Week

- The “Qaumi Ekta Week” (National Integration Week) was observed all over the country, from 20 to 25th November, 2018.
- The objective of the celebration is to foster and reinforce the spirit of Communal Harmony, National Integration and pride in vibrant, composite culture and nationhood.
- This occasion also provides an opportunity to reaffirm age old traditions and faith in the values of tolerance, co-existence and brotherhood in a multi-cultural and multi-religious society.

National Foundation for Communal Harmony

- The National Foundation for Communal Harmony (NFCH), an autonomous organisation with the Ministry of Home Affairs, organises Communal Harmony Campaign coinciding with the Qaumi Ekta Week.
- The Foundation promotes Communal Harmony and strengthens National Integration.
- It also provides financial assistance for relief and rehabilitation of children rendered orphan or destitute in communal, caste, ethnic or terrorist violence.

Sangai Festival

- Sangai Festival is an annual cultural extravaganza in Manipur, the festival helps to promote Manipur as a world class tourism destination.
- Every edition of the festival showcases the tourism potential of the state in the field of Arts & Culture, Handloom, Handicrafts, Indigenous Sports, Cuisine, Music and Adventure sports of the state etc.
- The ‘Festival’ is named after the State animal, Sangai, the brow-antlered deer found only in Manipur.
- The State’s classical dance form, ‘Ras Leela’ is quite famous all over the world for its distinctiveness from any other dance forms in India.
- The **Sangai** is an endemic and endangered subspecies of brow-antlered deer found only in Manipur, India.
- It is found in its natural habitat only at Keibul Lamjao National Park over the floating biomass in the south eastern part of Loktak Lake.

South Asia Regional Youth Peace Conference

- The conference will be organized by Gandhi Smriti and Darshan Samiti (GSDS), functioning under Ministry of Culture.
- UNESCO MGEIP (Mahatma Gandhi Institute of Education for Peace and Sustainable Development) is in partnership with GSDS for organizing this conference.
- It is being organized to mark the beginning of celebration of 150th birth anniversary of Mahatma Gandhi.
- It focusses on building a network for young leaders from South Asian countries to work towards achieving UN sustainable development goals.



World’s Oldest Rock Art

- Australian Scientists have recently found the world’s oldest figurative art in a cave in Indonesia.
- The cave art on the island of Sulawesi is estimated to be about 40,000 years old.
- This discovery challenges the idea that the oldest artwork had originated in Spain and France.

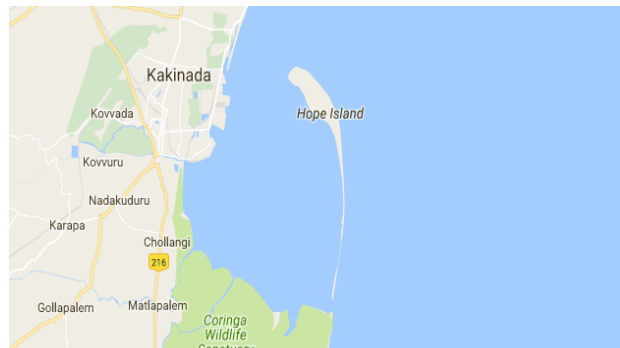


- There is a theory that human capacity for abstract thinking originated in Europe, but the new discovery makes the case that this development was occurring in Asia at the same time.

GEOGRAPHY

Hope Island

- Greater Flamingoes have recently been spotted on the coast of Hope island after a long period.
- Hope island is a part of the Coringa Wildlife Sanctuary, off the coast of Kakinada, Andhra Pradesh.
- It is relatively a young island, formed from the sediment outflow carried by the waters of the Koringa River, a distributary of the Godavari.
- It acts as natural barrier for storm surges and provides tranquility to the ships anchored in Kakinada Bay which makes Kakinada Port one of the safest natural ports in the Eastern Coast of India.
- The northern tip of the island is called "Godavari Point", which overlooks the entry point into the Kakinada Bay and the Kakinada harbour.



Myanmar Port Development by China

- China has signed a multi-billion-dollar deal with Myanmar to build a port at a strategic town along the coast of the Bay of Bengal.
- It will build the deep sea port project in Kyaukpyu town after negotiations dragged for years.
- Under the framework agreement, China will fund 70% of the investment for the project and Myanmar will pitch in the remaining 30%.
- This new framework agreement marks step for the China proposed Belt and Road Initiative (BRI).
- China is also developing deepwater strategic Gwadar port in Pakistan in the Arabian Sea which faces the Mumbai coast.
- It has also acquired Sri Lanka's Hambantota port on debt swap in the Indian Ocean.

POLITY

Double Jeopardy

- Article 20(2) of the constitution deals with Double Jeopardy. It mandates that a person cannot be prosecuted or punished twice for the same offence.
- Recently, the Supreme Court has taken the issue of double jeopardy.
- It has held that the bar of double jeopardy does not arise if an accused was discharged of a criminal offence, even before the commencement of trial.
- The principles of double jeopardy cannot be invoked if the accused has not been tried at all and convicted or acquitted on the basis of an invalid sanction for prosecution.
- The judgment is based on an appeal filed by the State of Mizoram against an order passed by the Gauhati High Court in August 2015.
- Gauhati High Court upholds a special court decision to decline to entertain a second chargesheet filed in a corruption case against the accused on the ground of double jeopardy.
- SC has observed that the accused was earlier discharged due to lack of proper sanction and the principle of double jeopardy did not apply.

Disqualification of MLA

- Kerala High Court has recently declared the election of Indian Union Muslim League (IUML) from the Azhikode assembly constituency for indulging in corrupt practices.
- He was disqualified for corrupt practices covered under the Section 123(3) and 123(4) of Representation of People's Act 1951.
- Under section 123 of RPA, if a candidate or his agent appeals for votes on religious, caste, community, race and language grounds, it would amount to corrupt practice
- The court declared the election of MLA citing that he appealed to the voters to vote for muslim community candidate.
- The court also disqualified him from contesting any election for period of 6 years.



- The findings of the court will be forwarded to the President for appropriate action.

Draft Resolution on Death Penalty

- United Nations General Assembly has recently approved a resolution on death penalty.
- It was approved with a recorded vote of 123 in favour, 36 against and 30 abstentions.
- India has voted against the draft resolution saying it goes against the statutory law of the country where an execution is carried out in the "rarest of rare" cases.
- Singapore has introduced an amendment on behalf of 34 countries.
- The amendment reaffirmed the countries' sovereign right to develop their own legal system, including determining appropriate legal penalties, in accordance with their international law obligations.
- India voted in favour of this amendment.

National Commission for Women

- National commission for women was set up as a statutory body in 1992 under the National Commission for Women Act, 1990.
- Its mission is to review the Constitutional and legal safeguards for women, recommend remedial legislative measures, facilitate redressal of grievances and advise the Government on all policy matters affecting women.
- It consists of a Chairperson, 5 members and a member-secretary. All the members and Chairperson are nominated by the central government.
- Ministry of Women and Child Development has nominated 3 members to National Commission for Women.
- This is in accordance with the section 3 of the National Commission for Women Act, 1990.
- They shall hold office for a period of 3 years or till the age of 65 years or until further orders from the date of assumption of charge of office, whichever is the earlier.

Central Bureau of Investigation

- The CBI functions under the Delhi Special Police Establishment (DPSE) Act.
- The act provides a state government routinely grants "General Consent" to the CBI for exercising its authority in the state.
- The general consent was routinely given for periods ranging from six months to a year.
- The consent is necessary as the jurisdiction of these agencies is confined to Delhi and Union Territories under the act.
- Andhra Pradesh and West Bengal have recently withdrawn the "general consent" granted to the CBI.
- Thus, it effectively curtails the power of CBI in the State without prior permission.
- The CBI and all agencies under the DPSE Act, 1946, will now have to approach the State government for permission for investigation on a case by case basis.

Remission of Convicts

- Three girls of TN Agricultural University were burnt alive when their bus was set afire by 3 after Jayalalithaa was convicted in a corruption case in 2000.
- Three convicts were initially sentenced to death, but the punishment was commuted to life in prison by the Supreme Court 2 years ago.
- They were recently granted remission and set free. TN governor cleared the government's recommendation to release them prematurely.
- The Governor had earlier returned the file seeking remission of their life sentence for reconsideration by the government.
- However, the State sent back the file sticking to its stand, following which the governor accepted the recommendation to release them.
- **Legal provision** – Section 433A deals with the restriction of powers of remission or commutation in certain cases.
- It says that, a sentence of death imposed on a person has been commuted under section 433 into one of imprisonment for life, such person shall not be released from prison unless he/she had served at least 14 years of imprisonment.

Pardoning Terms

- **Pardon** - It removes both the sentence and the conviction and completely absolves the convict from all the sentences, punishments and disqualifications.



- **Commutation** - It denotes the substitution of one form of punishment for a lighter form.
- **Remission** - It implies reducing the period of sentence without changing its character.
- **Respite** - It denotes awarding a lesser sentence in place of one originally awarded due to some special fact, such as the physical disability of convict or the pregnancy of a woman offender.
- **Reprieve** - It implies a stay of the execution of a sentence (especially that of death) for a temporary period. Its purpose is to enable the convict to have time to seek pardon or commutation from the President/Governor.

Sentinelese Tribe

- An American man has been killed by an endangered sentinelese tribe in India's Andaman and Nicobar islands.
- The Sentinelese belongs to negrito tribe who live on the North Sentinel Island of the Andamans.
- The inhabitants are connected to the Jarawas on the basis of physical, as well as linguistic similarities.
- They have been fiercely hostile to outside contact.
- The Govt. of India issued the Andaman and Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956.
- According to the regulations,
 1. Traditional areas occupied by the tribes are declared as Reserves
 2. It prohibited entry of all persons to reserves except those with authorisation.
 3. Photographing or filming the tribe members is also an offence.
- The rules were amended later to enhance penalties. But restricted area permits were relaxed for some islands recently.

GOVERNMENT INITIATIVES

Central Tribal University

- Union Cabinet has recently approved setting up of a Central Tribal University in Andhra Pradesh.
- The decision was made according to the provision provided under the 13th Schedule to the Andhra Pradesh Reorganisation Act, 2014.
- The proposed university will come up after necessary amendments in the Central Universities Act.

INSPIRE

- The 2nd edition of INSPIRE (International Symposium to Promote Innovation & Research in Energy Efficiency) was recently inaugurated.
- It is being organised by Energy Efficiency Services Limited (EESL) and World Bank.
- Bureau of Energy Efficiency (BEE), The Energy & Resources Institute (TERI), Asian Development Bank (ADB), the United Nations Environment Program (UNEP) are the other collaborators for the symposium.
- It focuses on enhancing grid management, e-Mobility, financial instruments and technologies for energy efficiency in India.
- Awards for InnovateToINSPIRE, a first-of-its-kind energy innovation challenge, was also given in the symposium.

LEAP Initiative

- Leadership for Academicians Programme (LEAP) was recently launched by Ministry of Human Resource and Development.
- It is a three weeks flagship leadership development training programme.
- The objective is mainly to train academic heads who are potentially likely to assume leadership roles in the future.
- Its focus group is second level academic functionaries in public funded higher education institutions.

INSPIRE Programme

- Innovation in Science Pursuit for Inspired Research (INSPIRE) Programme is sponsored and managed by Ministry of Science & Technology.
- The basic objective of INSPIRE is to attract young talents to the study of science and build the required critical human resource pool for strengthening R & D base.
- The programme does not conduct any competitive exams for identification of talent at any level.
- It relies on the existing educational structure for identification of talent.
- The programme has three components:
 1. Scheme for Early Attraction of Talent- (SEATS)
 2. Scholarship for Higher Education- (SHE)
 3. Assured Opportunity for Research Careers - (AORC)

- It would include both domestic and foreign training in managerial skills such as problem-solving, handling stress, team building work, conflict management, developing communication skills etc.
- The implementation will be through top ranked universities and top 100 global ranked foreign universities.

ARPIT initiative

- Annual Refresher Programme in Teaching (ARPIT) was recently launched by Ministry of Human Resource and Development.
- It is a unique initiative of online professional development of 15 lakh higher education faculty using the MOOCs platform SWAYAM.
- National Resource Centres (NRC) will be identified to prepare online training material.
- NRC will be in a mixed range of institutions such as, Central Universities, IISc, IUCAA, IITs, IISERs, NITs, IGNOU, State Universities, UGC's Human Resource Development Centres (HRDCs) and National Institutes for Technical Teachers Training.
- It will focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.
- **SWAYAM** - Study Webs of Active learning for Young Aspiring Minds is a Massive Open Online Courses (MOOCs) platform launched to offer various online courses for school education and higher education.

PAISA

- Portal for Affordable Credit and Interest Subvention Access was recently launched by Ministry of Housing and Urban Affairs.
- It is a centralized electronic web platform for processing interest subvention on bank loans to beneficiaries under Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY-NULM).
- Allahabad Bank is the nodal bank for this portal.
- It enables the government to connect directly with the beneficiaries and ensuring greater transparency and efficiency in delivery of services.
- All the States & UTs, all scheduled commercial banks, RRBs and Cooperative Banks are expected to deploy this portal.

Sahakar-22

- It is a mission launched by National Cooperative Development Corporation (NCDC).
- The objective of the mission is to double the farmers' income through providing new employment opportunities generated through cooperatives.
- It focusses on strengthening the farmers economic condition by augmenting their income and fast track the pace of development in the State.

NCDC

- The NCDC has the unique distinction of being the sole statutory organisation functioning as an apex financial and developmental institution exclusively devoted to cooperative sector.
- It supports cooperatives in diverse fields apart from agriculture and allied sectors.
- It is an ISO 9001:2015 compliant organisation and has a distinctive edge of competitive financing.

Sabki Yojana, Sabka Vikas

- It is a campaign launched by the Ministry of Panchayati Raj.
- During the campaign, structured Gram Sabha meetings will be held for preparing Gram Panchayat Development Plan for the next financial year 2019-2020.
- It will involve people at the grassroots while preparing structured gram panchayat development plans, along with a thorough audit of the works done in the last few years.
- It covers 250,000 gram panchayats across the country.
- Under the campaign, the gram panchayats will have to publicly display all sources of funds collected and their annual spending, along with future development initiatives.
- Gram sabha meetings will be made mandatory where trained assistants related to all 29 sectors assigned to gram panchayats, according to the 11th schedule of the constitution, will have to be present

Strategic Petroleum Reserve

- Union Cabinet has recently approved the filling of Padur strategic petroleum reserve by overseas national oil companies.
- Strategic petroleum reserves are essentially huge stockpiles of crude oil to keep the wheels of the country running in crunch situations.



- This is because the government has to stay prepared with emergency stores of crude oil to tide over severe supply shocks of this critical fuel.
- India's strategic crude oil storages are currently located at Visakhapatnam in A.P, Mangaluru, Padur in Karnataka.
- The government has given in principle approval to reserve at Chandikhol in Odisha.

Global IT Challenge for Youth with Disabilities 2018

- It is a three-day event organised in Delhi by Ministry of Social Justice and Empowerment in association with Rehabilitation International Korea.
- Youth with disabilities from 18 countries have participated in the event.
- India has been participating in the event since 2013.
- It is to leverage IT skills among youth with disabilities and to spread awareness about the application of ICT in enhancing the quality of life of persons with disabilities.
- It is a capacity building project that helps youth with disabilities to overcome their limitations.

Young Champions Award

- NITI Aayog's Atal Innovation Mission (AIM) and UNICEF India have announced "Young Champion Award".
- The awards were presented to the top six most innovative solutions which were shortlisted through the Atal Tinkering Marathon.
- The marathon was launched by Atal Tinkering Labs established under AIM.
- It is a nationwide challenge across 6 different thematic areas - clean energy, water resources, waste management, healthcare, smart mobility and agri-technology.
- It is to encourage students to observe community problems and develop innovative solutions.

Hausla – 2018

- It is the national festival for children of child care institutions (CCI) organized by the Ministry of Women and Child Development.
- The theme of the event is "Child Safety".
- It will host an inter CCI competition for children who reside in child care institutions to showcase their talents.

Aadi Mahotsav

- It is a national tribal festival organised by Ministry of Tribal Affairs and TRIFED.
- The theme of the festival – "A Celebration of the Spirit of Tribal Culture, Craft, Cuisine and Commerce".
- It features exhibition -cum-sale of tribal handicrafts, art, paintings, fabric, jewellery and much more through 100 stalls.

Nirbhaya Fund

- The fund is created by the Ministry of Finance in 2013, dedicated for implementation of initiatives aimed at enhancing the safety and security for women in the country.
- It is a non-lapsable corpus fund.
- It is being administered by the Department of Economic Affairs, Ministry of Finance.
- Ministry of Women and Child Development is the nodal authority for appraising/recommending the proposals/schemes to be funded under fund.
- An Empowered Committee of Officers under the Secretary of Women and Child Development Ministry was setup in 2016 to monitor the fund.
- Ministry of women and child development has recently approved 3 fresh proposals for expenditure under nirbhaya fund.
- From time to time, Department of Economic Affairs (DEA) issues guidelines for administration and operationalization of the Fund.
- Some of the schemes under the fund are,
 1. **One Stop Centre Scheme**, also known as "Sakhi Centres" aims at establishing centres to facilitate women affected by violence.
 2. **Mahila Police Volunteers (MPVs)** will act as a link between police and community and help women in distress
 3. **Universalisation of Women Helpline** - Helpline specifically for women with a common number across the country will link the One Stop Centres.

NIPUN Portal

- Delhi Police has recently launched this NIPUN portal.
- It is a e-learning portal which aims to give online training and information through specialised courses designed by experts in the field.
- The Delhi Legal Service Authority has also consented to be partner in developing specific courses for Delhi Police.

Bhudhaar

- Andhra Pradesh government has recently launched “Bhudhaar” initiative.
- It aimed at enabling easy identification of details of the land parcel.
- Under this, each land parcel will be given a Bhudhaar number, an 11-digit unique figure.
- It would put an end to irregularities in land registration and corruption in revenue department.

Data City Programme

- The programme was launched by the State government of Karnataka in Bengaluru.
- The programme aims at solving burning issues of the city using innovative solutions developed by startups from a pool of applications.
- It is a 7 month long programme where the corporates, startups, government agencies and citizens will work closely to find solutions of city's growing issues.
- It is the first Data City programme launched in Asia.
- The State government has entered into a partnership with NUMA, an international innovation and learning hub, and SUEZ, a France based utility company for this project.

GOVERNMENT SCHEMES

UDAN 3

- Ude Desh Ki Aam Nagrik (UDAN) is a regional connectivity scheme introduced by the Ministry of Civil Aviation.
- Under UDAN 3, government proposes to connect destinations through seaplanes and have invited bids for the same.
- Among the destinations, the recently unveiled Statue of Unity at Sardar Sarovar Dam, Sabarmati Riverfront in Ahmedabad, Tehri Dam in Uttarakhand and Nagarjuna Sagar in Telangana are included.
- UDAN 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.
- Airports Authority of India (AAI) is the implementing agency.
- A Regional Connectivity Fund (RCF) will be created to subsidise operations under the RCS.
- The central government will fund 80% of the losses incurred and the rest will be covered by the states.
- This is provided through the Viability gap funding (VGF) to the selected airline operators from RCF, and state governments will be required to reimburse the applicable share.
- VGF will be provided for three years from the date of commencement of operations of such RCS flights.
- In general, central and state contributions for VGF are 80:20 and for the north-eastern states & union territories it is 90:10.
- Benefits under the Scheme will be available for a period of 10 years from the date of its notification.
- RCS will be made operational only in states and at airports which are willing to provide concessions required under the Scheme.

Yuva Sahakar Scheme

- National Cooperative Development Corporation (NCDC) has introduced Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme.
- This is a youth friendly scheme which will attract youths to cooperative business ventures.
- The scheme will be linked to Rs 1000 crore ‘Cooperative Start-up and Innovation Fund (CSIF)’ created by the NCDC.

Maternity Incentive Scheme

- Maternity Benefit Act was amended in 2017 to increase paid maternity leave from 12 to 26 weeks for all women employees in establishments employing 10 or more people.
- The implementation of the act was good in public sectors, but it was poor for those with private sector or contract jobs.
- In a bid to encourage private employers, Ministry of Labour and Employment is working on an incentive scheme.
- Accordingly, the government would bear the cost of maternity leave wages for 7 weeks for women workers with a wage ceiling up to Rs.15,000 per month.
- The ministry is in the process of obtaining budgetary approvals.

NATIONAL INSTITUTES IN NEWS

PM-STIAC

- Prime Minister has recently interacted with the members of Science, Technology and Innovation Advisory Council (PM-STIAC).
- It is a 21-member panel, advise the Prime Minister on all matters related to S&T, innovation and monitor the implementation of PM's vision on the same.
- It is chaired by government's Principal Scientific Advisor.
- It is expected to act as a high-level advisory body to several ministries and execute mission-oriented programmes.
- Secretaries of various scientific ministries such as education, environment and health would be 'special invitees' to the council meetings.
- Scientific Advisory Committees (SAC) - Cabinet and SAC-PM was dissolved and replaced by PM-STIAC.

National Council on India's Nutrition Challenges

- The Council which been set up under POSHAN Abhiyaan, it is the apex body to formulate overall policies, guide and monitor all nutrition based schemes.
- The Council will submit its report to the Prime Minister every six months.
- The mandate of the Council is:
 1. To provide policy directions to address India's Nutrition Challenges through coordinated inter-sectoral action
 2. To coordinate and review convergence among ministries
 3. To review programmes for nutrition on a quarterly basis

Himalayan State Regional Council

- NITI Aayog has recently constituted the Himalayan State Regional Council.
- It is to ensure sustainable development of the Indian Himalayan region.
- The council is chaired by a member of NITI Aayog.
- The members of the council are Chief Secretaries of the Himalayan States as well as the Secretaries of key Central Ministries, senior officers of NITI Aayog as well as special invitees.
- It will be the nodal agency for the Sustainable development in the Himalayan Region.
- The region consists of the twelve States namely J&K, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, 2 districts of Assam and West Bengal.
- It has been constituted to review and implement identified action points based on the Reports of five Working Groups.
- It shall monitor the implementation of action points for Central Ministries, Institutions and 12 Himalayan State Governments.

INTERNATIONAL ORGANISATIONS

International Solar Alliance

- Botswana has recently announced its decision to join International Solar Alliance.
- The International Solar Alliance is an alliance of more than 120 countries, most of them being sunshine countries, which come either completely or partly between the Tropic of Cancer and the Tropic of Capricorn.
- It aims to channel \$300 billion in 10 years to promote renewable energy projects under a global mega fund for clean energy.

- The framework pact was initiated by the Indian and French governments at the climate change summit held at Paris in 2015.
- It opened ISA Framework Agreement for signature in Marrakech, Morocco in 2016, on the side-lines of COP-22.
- After ratification by 15 countries, ISA became the first full-fledged treaty based international intergovernmental organization headquartered in India.
- Till date, out of 121 prospective member countries that lie either fully or partially between the Tropics of Cancer and Capricorn, 68 countries have signed the Framework Agreement of the ISA.
- In the first assembly of ISA, a resolution was passed for amending the framework agreement to open ISA membership to all countries that are members of United Nations.

MoU among BRICS Nations

- BRICS is an association of five major emerging national economies: Brazil, Russia, India, China and South Africa.
- Union Cabinet has recently given its ex-post facto approval for the MoU among BRICS nations, regarding Cooperation in the Social and Labour Sphere.
- The MoU provides a mechanism for cooperation, collaboration and maximum synergy with the common objective of inclusive growth and shared prosperity in the new industrial revolution.
- The BRICS members are all leading developing or newly industrialized countries, but they are distinguished by their large, sometimes fast-growing economies and significant influence on regional affairs.
- All five are G-20 members.
- Since 2009, the BRICS nations have met annually at formal summits.
- Recently, the 10th BRICS summit was held in Johannesburg, South Africa.

International Telecommunication Union (ITU)

- India has been elected as a Member of the ITU Council for another 4-year term (2019-2022).
- India has been a regular member of the ITU council since 1952.
- ITU is the specialized agency of United Nation (UN) for information and communication technologies (ICTs).
- It currently has a membership of 192 countries and more than 700 private-sector entities.
- Its secretariat is located in Geneva, Switzerland.
- It is responsible for the allocation of radio spectrum and satellite orbits, and for the standardization and development of ICTs worldwide.
- The work of ITU covers the whole ICT sector, from digital broadcasting to the Internet and from mobile technologies to 3D TV.
- It is unique among UN agencies in having both public and private sector membership.
- In its recent meeting, it was decided to set up ITU South Asia Area Office and Technology Innovation Centre in New Delhi.

APEC Meet

- The recent Asia-Pacific Economic Cooperation (APEC) summit was held in Port Moresby, Papua New Guinea.
- The meeting was topped by disputes between the US and China over trade, security and which would be the better investment partner for the region.
- APEC is a forum for 21 Pacific Rim member economies that promotes free trade throughout the Asia Pacific region.
- It is headquartered at Singapore.
- It was established due to growing inter dependence among Asia Pacific regions, increasing regional trade blocs, to diffuse growing power of Japan.
- The criterion for membership is that the member is a separate economy, rather than a state and the result of it is the inclusion of Taiwan.
- APEC also includes three official observers: ASEAN, the Pacific Islands Forum and the Pacific Economic Cooperation Council
- India is not in the grouping.

INTERNATIONAL ISSUES AND EVENTS

SDG Global Media Compact

- Global media compact was introduced in the last session of UN general assembly in collaboration with UN foundation.
- It is an initiative marking a new drive to advance awareness of the Sustainable Development Goals (SDGs).
- The Compact seeks to inspire media and entertainment companies around the world to leverage their resources and creative talent to advance the Goals.
- It is inclusive and aims to embrace media companies from all regions and all platforms.
- The 17 Sustainable Development Goals were adopted by world leaders at the historic Sustainable Development Summit in September 2015.

Global Digital Content Market

- World Intellectual Property Organization (WIPO) organises Global Digital Content Market (GDCM).
- It is a conference to showcase the latest opportunities and challenges in the creative industries and, changes brought about by digital technologies.
- This year, the special focus of the conference is Asia-Pacific region.
- India has been chosen as a host nation for the conference by WIPO.
- Department of Industrial Policy and Promotion (DIPP) hosts this conference in New Delhi.
- This is the 2nd edition of the conference. The first one was hosted in Geneva, 2016.
- It will feature panel sessions on music, education publishing, broadcasting and digital inclusion.
- It will see participation of professionals from various creative fields, the digital industry around the world and delegates of the diplomatic community from Missions to the United Nations.

Migration Pact

- The Australian government has recently decided to withdraw from the UN's Global Compact for Safe, Orderly and Regular Migration.
- Earlier, USA, Hungary, the Czech Republic and Poland had withdrawn from the agreement.
- The agreement was signed in the UNGA by adopting a political declaration "New York Declaration for Refugees and Migrants" in 2016.
- The declaration pledged to uphold the rights of refugees, help them resettle and ensure they have access to education.
- The pact is not binding on member countries.
- It is aiming to make migration all over the world safer.
- It addresses issues such as how to protect migrants and how to integrate them into new countries or how to return them to their original home countries.
- Under the agenda, member States committed to cooperate internationally to facilitate safe, orderly and regular migration.

Astana Declaration

- 120 UN members including India have recently signed the Astana Declaration, which vows to strengthen primary healthcare and achieve universal health coverage by 2030.
- The declaration marked 40 years of the historic Alma Ata Declaration, which declared health a human right for all.
- In 1978, 134 nations signed the Alma-Ata Declaration with the same pledge.
- Though Alma-Ata was signed to ensure health for all, its progress was uneven, with several countries missing out on several indicators set under the declaration.
- The new declaration will renew political commitment to primary health care from governments, non-governmental organisations, professional organisations, academia and global health and development organisations.

Advanced Motor Fuels Technology Collaboration Programme

- The programme is under the International Energy Agency.
- It is an international platform for co-operation among countries to promote cleaner and more energy efficient fuels & vehicle technologies.



- The programme provides an opportunity for fuel analysis, identifying new/ alternate fuels for deployment in transport sector and allied R&D activities for reduction in emissions in fuel intensive sectors.
- Union Cabinet has recently approved India's membership in this programme.
- The aim of joining this by Ministry of Petroleum and Natural Gas is
 1. To facilitate the market introduction of Advanced motor fuels/ Alternate fuels
 2. To bring down emissions and achieve higher fuel efficiency in transport sector.
- India is the 16th member of the programme and other members are USA, China, Japan, Canada, Chile, Israel, Germany, Austria, Sweden, Finland, Denmark, Spain, Republic of Korea, Switzerland and Thailand.

International Energy Agency

- IEA is a Paris-based autonomous intergovernmental organization established in the framework of the Organisation for Economic Co-operation and Development (OECD).
- Founded in 1974, the IEA was initially designed to help countries co-ordinate a collective response to major disruptions in the supply of oil.
- Only OECD member states can become members of the IEA.
- Except for Chile, Iceland, Israel, Latvia, Slovenia all OECD member states are members of the IEA.
- Mexico has recently joined IEA as 30th member.
- Brazil, China, India, Indonesia, Morocco, Singapore and Thailand are the associate members of IEA.
- It acts as a policy adviser to its member states, but also works with non-member countries, especially China, India, and Russia.
- Its flagship releases are World Energy Outlook and Key World Energy Statistics.

ECONOMY

National Investment Infrastructure Fund (NIIF)

- NIIF is going acquire controlling interest in private infrastructure lender IDFC.
- This acquisition is the first investment from NIIF's Strategic Fund and the first control transaction for NIIF.
- The NIIF is a trust that raises debt to invest in the equity of infrastructure finance companies.
- It acts like a bankers' bank in infrastructure financing. Government owns 49% of NIIF.
- It provides equity support to NBFCs/ Financial Institutions (FIs) engaged in infrastructure financing.
- It also provides equity/ debt to commercially viable projects, both Greenfield and Brownfield, including stalled projects.
- It is being considered as an Alternative Investment Fund (AIF) under SEBI regulation.
- A typical sovereign wealth fund (SWF) will be a state-owned investment company owned by governments and invests their own money in foreign countries.
- Though the NIIF acts like an SWF, it does not invest in assets such as stocks, bonds, real estate, commodities etc like an SMF do and therefore cannot be called so.
- The Abu Dhabi Investment Authority (ADIA) became the first institutional investor in the NIIF with an investment of \$1 billion.
- An India-UK Green Growth Equity Fund (GGEF) is also being set-up under the fund of funds under NIIF.
- GGEF shall receive funds worth 120 million each from Government of India (through NIIF) and Government of UK.
- The fund aims to leverage private sector investment from the City of London to invest in Green Infrastructure Projects in India.

Privatisation of Airports

- Union Cabinet has recently given in principle approval for operating, managing and developing 6 non-metro airports under Public Private Partnership (PPP).
- The airports are Ahmedabad, Jaipur, Lucknow, Guwahati, Thiruvananthapuram and Mangaluru.
- At present, airports at Delhi, Mumbai, Bangalore, Hyderabad and Cochin are managed under the PPP model.
- The Airports Authority of India (AAI) will hold a minor stake in 6 new airports under PPP, just like it does at the Delhi and Mumbai airports.
- The private player will hold at least 75 per cent stake.
- **PPP bidding model** - It will be held in a revenue-sharing model, where bidders are required to pay a specified share of gross revenue to the AAI.

- The same model followed was during the privatisation of Delhi and Mumbai airports.
- PPP mode has helped create world-class airports while also helping the AAI increase its revenues.

India Infrastructure Finance Company Ltd (IIFCL)

- IIFCL is a wholly-owned Government of India company set up in 2006.
- It has been registered as a NBFC-ND-IFC with RBI since September 2013.
- It provides long term finance to viable infrastructure projects – Both Greenfield and Brownfield projects.
- It provides refinance to banks and other eligible financial institutions for their loans to infrastructure projects.
- The sectors eligible for financial assistance from IIFCL are as per the harmonized list of Infrastructure Sub-Sectors as approved by the Government and RBI.
- It broadly includes transportation, energy, water, sanitation, communication, social and commercial infrastructure.
- Recent Development – Asian Development Bank (ADB) and Government of India has recently signed \$300 million Loan Agreement to support lending by IIFCL.

NBFC-ND-IFC

- RBI has classified Non-Banking Financial Companies (NBFCs) in to 4 categories.
- They are Asset Finance Companies, Loan companies and Investment Companies and Infrastructure Finance Companies (IFCs).
- An IFC is defined as Non-Deposit taking NBFC (NBFC-ND) that fulfils following criteria,
- A minimum of 75% of its total assets should be deployed in infrastructure loans,
- Net owned funds of Rs. 300 crore or above,
- Minimum credit rating 'A' or equivalent of CRISIL, FITCH, CARE, ICRA or equivalent rating by any other accrediting rating agencies and
- CRAR (Capital to Risk Weighted Assets ratio) of 15 % with a minimum Tier I capital of 10 percent.

Hedging Norms for Companies

- A hedge is an investment to reduce the risk of adverse price movements in an asset.
- RBI has recently relaxed norms for External Commercial Borrowing (ECB) by reducing the mandatory hedging provision to 70% from the current 100%.
- The notification has come after strengthening of the dollar in the recent times which made ECB route unattractive to companies.
- A notification issued by RBI highlights that mandatory hedge coverage has been reduced under Track I of the ECB framework.
- Track I refer to medium-term foreign currency-denominated ECBs with a minimum average maturity of 3-5 years.
- ECBs raised prior to this circular would be required to mandatorily roll over their existing hedge only to the extent of 70% of outstanding ECB exposure.
- The move will help reduce costs for companies that raise foreign funds.

India's Oil Sourcing Networks

- US administration has granted India and 7 other countries waivers on purchase of oil from Iran.
- Saudi Arabia is India's top exporter for crude oil followed by Iraq, Nigeria, Venezuela.
- Iran is placed 5th for the last six years though imports from Iran have increased in recent years.
- Vadinar in Gujarat has handled the most crude oil imports. It is followed by Sikka, Jamnagar in Gujarat and Paradip in Odisha.

Largest Sugar Producer

- Brazil traditionally the world's top sugar producer, this year the output from the nation will tumble 21 percent to 30.6 million tons due to adverse weather and a shift to produce more cane-based ethanol.
- By this India will hold the title of world's largest sugar producer for the first time in 16 years.
- However Brazil is expected to remain the top exporter, followed by Thailand.

Operation Greens

- Ministry of Food Processing Industries (MoFPI) has recently approved the operationalisation strategy for Operation Greens.

- Operation Greens was announced in the Budget 2018-19 with an outlay of Rs. 500 crores.
- The main objective of the project is to reduce price volatility in agri commodities such as vegetables.
- It aims to stabilize the supply of Tomato, Onion and Potato(TOP) crops and to ensure availability of TOP crops throughout the country round the year without price volatility.
- It is to promote farmer producers organizations, agri-logistics, processing facilities and professional management.

ENVIRONMENT

Virtual Climate Summit

- It is an innovative climate summit which is an entirely online event to be a carbon neutral event.
- It is the world's first ever political global meeting to be held in online.
- Its focus is on to renew political momentum in tackling climate change.
- It was announced in the Global Environment Facility (GEF) assembly recently held in Vietnam.
- It is the brainchild of Marshall Islands President who insisted upon such summit in the GEF assembly.
- The summit is convened by the Republic of the Marshall Islands (RMI) in its capacity as the Climate Vulnerable Forum (CVF) chair.
- Its main aim is to encourage the international community to keep global warming to 1.5 degrees Celsius above pre-industrial levels.



Climate Vulnerable Forum

- The climate vulnerable forum is an international partnership of countries highly vulnerable to a warming planet.
- The Forum serves as a South-South cooperation platform for participating governments to act together to deal with global climate change.
- It brings together climate vulnerable developing countries from across Africa, Asia, the Caribbean, Latin America and the Pacific.
- The forum held its first meeting in Maldives in the year 2009.
- CVF High-level meeting was last convened during the UNFCCC Climate Change Conference in Paris (COP21).
- The Manila-Paris Declaration and the 2016-2018 Roadmap of the CVF, adopted at this meeting, spell out the CVF's planned efforts during this time period.
- The forum has a rotating chairmanship that has been held by Maldives, Kiribati, Bangladesh, Costa Rica and Philippines, Ethiopia and currently held by Republic of Marshall.

Global Cooling Innovation Summit

- It is going to be inaugurated by Ministry of Science and Technology in New Delhi.
- It is a first-of-its-kind solution focussed event to explore ways to address the climate threat that comes from the growing demand from room air conditioners.
- **Global cooling prize** - Mission Innovation challenge will be launched in this summit.
- It aims to spur development of a residential cooling solution that has at least five times (5x) less climate impact than today's standard.
- The objective of the competition is to develop a cooling technology that
 1. Requires radically less energy to operate,
 2. Utilizes refrigerants with no ozone depletion potential and with low global warming potential, and
 3. Cost-effective at scale.
- It is organised by Union Ministry of S&T along with Rocky Mountain Institute, Alliance for An Energy Efficient Economy (AEEE), Conservation X Labs and CEPT University.

SECURE Himalaya

- The SECURE Himalaya project was launched by the union government in association with the United Nations Development Programme (UNDP).

- It is a six-year project to ensure conservation of locally and globally significant biodiversity, land and forest resources in the high Himalayan ecosystem spread over four states in India.
- The SECURE - securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems is meant for specific landscapes.
- It includes Changthang (Jammu and Kashmir), Lahaul - Pangi and Kinnaur (Himachal Pradesh), Gangotri - Govind and Darma - Byans Valley in Pithoragarh (Uttarakhand) and Kanchenjunga - Upper Teesta Valley (Sikkim).
- UNDP has recently launched a competition for tagline and illustration with the theme "Protecting Wildlife, Preserving Landscapes and Empowering Communities in the High altitude Himalaya".

Energy Efficiency Revolving Fund

- Asian Development Bank (ADB) and Energy Efficiency Services (EESL) signed a USD 13 million grant to set up Energy Efficiency Revolving Fund.
- The fund is to be administered by ADB.
- It aims to expand and sustain investments in the energy efficiency market in India, build market diversification, and scale up existing technologies.
- Global Environment Facility (GEF) will provide the additional financing for the ongoing projects under this fund.
- Additional grants from GEF will be used by EESL for making investments in new and emerging technologies.
- EESL is under the administration of Ministry of Power and is working towards mainstreaming energy efficiency.

Click [here](#) to know about GEF.

Sovereign Blue Bond

- The Republic of Seychelles has recently launched the world's first sovereign blue bond.
- Blue Bond is a financial instrument designed to support sustainable marine and fisheries projects.
- It is partially guaranteed by a US\$5 million guarantee from the World Bank (IBRD).
- It is further supported by a US\$5 million concessional loan from the Global Environment Facility (GEF) which will partially cover interest payments for the bond.
- Proceeds from the bond will also contribute to the World Bank's South West Indian Ocean Fisheries Governance.
- It combines Public and private investment to mobilize resources for empowering local communities and businesses in achieving a transition to sustainable fisheries.

Wildlife Crime Control Bureau

- Wildlife Crime Control Bureau is a statutory body established by the Government of India under the MoEFCC, to combat organized wildlife crime in the country.
- Under Wild Life (Protection) Act, 1972, it is mandated:
 1. To collect and collate intelligence related to organized wildlife crime activities.
 2. To disseminate the same to State and other enforcement agencies for immediate action so as to apprehend the criminals.
 3. To establish a centralized wildlife crime data bank.
 4. Co-ordinate actions by various agencies in connection with the enforcement of the provisions of the Act.
- Apart from these functions WCCB also assists and advises the Customs authorities in inspection of the consignments of flora & fauna as per the provisions of Wild Life Protection Act, CITES and EXIM Policy governing such an item.
- Recently WCCB has received United Nation's Environment award.

Indian Wind Turbine Certification Scheme

- It is a new scheme drafted by Ministry of New and Renewable Energy, in consultation with National Institute of Wind Energy Chennai.
- The Scheme enlists the guidelines for the benefit of all the stakeholders from concept to lifetime of wind turbine.
- It incorporated various guidelines from turbine certification scheme.



- It will not only present a framework for standards, but also gratify to the technical regulations and requirements issued by Central Electricity Authority (CEA), guidelines issued by MNRE and other international guidelines.
- Type Certification of wind turbines plays an active role in ensuring that wind turbines in India meet the requirements of requisite international standards.

ACROSS Scheme

- Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS) scheme was recently approved by the Cabinet Committee.
- It is an umbrella scheme with 9 sub schemes.
- It will be implemented by the Ministry of Earth Sciences (MoES) through its institutes.
- Its objective is to provide a reliable weather and climate forecast for betterment of society.
- It pertains to the atmospheric science programs of the MoES and addresses different aspects of weather and climate services, which includes warnings for cyclone, storm surges, heat waves, thunderstorms etc.
- Each of the above aspects is incorporated as 9 sub-schemes under the umbrella scheme "ACROSS".
- The schemes will be implemented in an integrated manner by 4 institutes –
 1. India Meteorological Department (IMD),
 2. Indian Institute of Tropical Meteorology (IITM),
 3. National Centre for Medium Range Weather Forecasting (NCMRWF), and
 4. Indian National Centre for Ocean Information Service (INCOIS)

Survey on Biodiversity in Andaman & Nicobar

- Zoological Survey of India has recently published a report on faunal diversity of islands of India.
- It is the first time in India that database of all faunal species found in Andaman & Nicobar (A&N) island has been documented.
- It proves that the A&N island, comprising only 0.25% of India's geographical area, are home to more than 10% of the country's fauna species.
- There are 1,067 endemic faunal species found only on the Andaman and Nicobar Islands and nowhere else.
- Some of the endemic species in the island are Narcondam hornbill, Nicobar megapode, the Nicobar treeshrew, the Long-tailed Nicobar macaque, and the Andaman day gecko.
- The authors of the publication have highlighted that a long period of isolation from the mainland made the islands hotspots for speciation resulting in hundreds of endemic species and subspecies.

National Action Plan for Conservation of Migratory Birds

- Union government has come out with a 5-year national action plan to conserve habitats of migratory birds.
- It specifically covers species which take long distances from Siberia in Russia to make the country their temporary home during winter.
- The action plan is brought out by Union Environment Ministry which spans 2018-2023.
- It is meant for coordinated actions among states for securing and enhancing population of migratory birds in India within their range across the Central Asian Flyway (CAF).
- A flyway is a geographical region within which a single or a group of migratory species completes its annual cycle – breeding, moulting, staging and non-breeding.
- CAF is one of the 9 flyways in the world.
- CAF covers northernmost breeding ground in Siberia to the southernmost non-breeding grounds in west and south Asia, the Maldives and the British Indian Ocean Territory.

Elephant Hospital

- India's first fully equipped dedicated elephant hospital has been established in Farah block of Mathura, complete with wireless digital X-Ray, laser treatment and dental X-ray facilities.
- The 'jumbo' hospital is the result of a collaborative effort between the Uttar Pradesh Forest Department and conservation NGO Wildlife SOS.
- The hospital complex includes an observation area for the overnight monitoring of elephants under treatment using Close Circuit Infra-Red CCTV cameras.

Point Calimere Sanctuary

- It is the only Ramsar site in the State of Tamil Nadu.



- It is a mix of salt swamps, mangroves, backwaters, mudflats, grasslands and tropical dry evergreen forest.
- It is a haven for migratory birds and resident species.
- Chemical companies and small-scale shrimp farms around the wetland have started to pose a threat to the biodiversity and ecosystem of the sanctuary.
- Atmospheric temperature, pH and salinity exceeded the permissible limits for ecologically sensitive zones.
- The presence of salt pans around the sanctuary lead to increase in salinity of the waters.
- Previous studies show that, high acidic or high alkaline water can affect the metabolic and developmental activities of wild animals and birds.
- Coliform microbial infection in the birds have also been reported which can cause a change in their natural behaviour and even affect their long-distance migration.

Hog Deer

- Recently searchers reported the presence of a small population of hog deer in Keibul Lamjao National Park (KLNP), Manipur.
- The study indicates that the western limit of hog deer is Manipur and not central Thailand as believed earlier.
- Two sub-species of hog deer have been reported from its range.
 1. The western race is distributed from Pakistan and the Terai grasslands (along the Himalayan foothills, from Punjab to Arunachal Pradesh).
 2. The eastern race of hog deer is found in Thailand, Indo-China, Laos, Cambodia, and Vietnam.
- The species has lost ground in most of its distribution range, a small and isolated population of under 250 was reported from Cambodia.
- The hog deer is an endangered species in the IUCN Red List and is protected under Schedule I of the Indian Wild Life (Protection) Act, 1972.



Siberian unicorns

- Genetic analyses have shown that the Siberian unicorn was the last surviving member of a unique family of rhinos.
- Siberian unicorn are giant, shaggy Ice Age rhinoceros, and they are extraordinary single horn.
- Weighing up to 3.5 tonnes with a single enormous horn, the Siberian unicorn roamed the steppe of Russia, Kazakhstan, Mongolia, and Northern China.
- The Siberian unicorn was a very close relative of the extinct woolly rhino and living Sumatran rhino.

Indira Gandhi Peace Prize

- Indira Gandhi Prize for Peace, Disarmament and Development is the prestigious award accorded annually by Indira Gandhi Memorial Trust.
- Individuals or organisations in recognition of efforts towards promoting international peace, development and a new international economic order, scientific discoveries used for the larger good of humanity and enlarging the scope of freedom will be awarded.
- Centre for Science and Environment (CSE) was awarded this year's prize.
- CSE is an Environmental NGO and a public interest research and advocacy organisation based in New Delhi.
- It was awarded for its pioneering work in the field of environmental education and protection and also for keeping the issue of environmental sustainability at the forefront of national attention and public policy.

SCIENCE AND TECHNOLOGY

SPACE

AstroSat

- AstroSat is a space observatory launched by ISRO in 2015.
- It was launched with a lift-off mass of about 1500 kg by PSLV-C30.
- It is India's first dedicated multi wavelength space observatory.
- Most other scientific satellites can observe only a narrow range of wavelength band.
- But AstroSat enables the simultaneous multi-wavelength observations of various astronomical objects with a single satellite.



- It observes universe in the optical, Ultraviolet, low and high energy X-ray regions of the electromagnetic spectrum.
- The scientific objectives of ASTROSAT mission are:
 1. To understand high energy processes in binary star systems containing neutron stars and black holes
 2. Estimate magnetic fields of neutron stars
 3. Study star birth regions and high energy processes in star systems lying beyond our galaxy
 4. Detect new briefly bright X-ray sources in the sky
 5. Perform a limited deep field survey of the Universe in the Ultraviolet region

GSAT – 29

- ISRO has recently launched communication satellite GSAT – 29 from Sriharikota.
- GSAT – 29 is a 3,500 kg communication satellite for providing high quality internet services.
- It is one of the planned Indian HTS (High Throughput Satellites) quartet. HTS are sent out to provide improved and faster internet connectivity.
- It was launched by GSLV – MkIII – D2, which is a three stage (Solid- Liquid – Cryogenic) heavy lift launch vehicle.
- It is designed to carry 4 ton class of satellites into Geosynchronous Transfer Orbit (GTO) or about 10 tons to Low Earth Orbit (LEO), which is about twice the capability of GSLV Mk II.
- It injected the GSAT – 29 satellite into GTO with required inclination to the equator.
- The satellite was placed in its final Geostationary Orbit (GEO) using the onboard propulsion system.
- The lifespan of the satellite is 10 years.
- It is the second test flight of GSLV – MkIII-D2 carrying the satellite.

GROWTH-India Telescope

- GROWTH-India telescope is at the Indian Astronomical Observatory located in Hanle, Ladakh.
- It was commissioned in June, 2018.
- The telescope is potentially fully robotic and can operate on its own.
- It is part of the Global Relay of Observatories Watching Transients Happen.
- Its goals are
 1. Search for explosions in the optical regime whenever LIGO group detects a Binary Neutron Star merger,
 2. Study nearby young supernova explosions,
 3. Study nearby asteroids.
- It has made its first science observation which is a follow-up study of a nova explosion.
- **Novae** are explosive events involving violent eruptions on the surface of white dwarf stars, leading to temporary increase in brightness of the star.
- Unlike a supernova, the star does not go on to die but returns to its earlier state after the explosion.

Chandrayaan – 2

- The Chandrayaan-2 lunar's orbiter with lander and rover is scheduled to be launched in January, 2019.
- A crucial test before the launch called "Lander Sensor Performance Test (LSPT)" is going to be conducted by ISRO.
- It involves lander's sensors which is set to undergo test at Challakere, Karnataka.
- ISRO has planned to fly the sensor on an aircraft over its artificial lunar site at Challakere, which resemble lunar craters.
- It is to test how the sensor will guide the lander when it starts descending on the lunar terrain.
- As the plane descends over the artificial terrain, the sensors must show how they will guide the soft landing of the lunar craft at the right spot, speed and position.
- **Role of Sensor in the Lander** – It helps assess height from the landing spot.
- It decides speed of the lander.
- It helps lander navigate boulder or uneven surfaces.

Mission Venus

- ISRO has opened up for its “Mission Venus” seeking experiment ideas from space agencies, universities and researchers.
- It is planned to be launched in Mid-2023.
- It plans to study the planet from an elliptical orbit that is closest to Venus at 500 km and 60,000 km at the farthest end.
- It is currently being handled by the Space Science Programme Office.
- If the project is approved would be ISRO’s third interplanetary mission after Chandrayaan – 1 and Mars Orbiter Mission.

International Space Station

- The International Space Station is a collaboration between the U.S., Russia, Canada, Europe and Japan.
- It has been in operation since 1998 and due to be retired in 2024.
- China has recently unveiled a core module of its space station which is expected to be completed by 2022.
- It is named “Tiangong” or “Heavenly Palace” with 3 astronauts placed permanently.
- China will have the only space station in orbit after ISS expires in 2024.
- Tiangong will be much smaller than the ISS which weighs 400 tonnes.
- It weighs 60 tonnes and will have the lifespan of around 10 years.
- China has announced that the lab would be open to “all countries” to conduct science experiments.

Kepler Telescope

- The Kepler Space telescope has run out of fuel and retired nearly after 9-year mission.
- It is an observatory in space dedicated to finding planets outside our solar system.
- It was originally launched in 2009 as part of NASA’s Discovery Program.
- It was approved far beyond its original mission length and was operating well until May 2013, when a second of its four reaction wheels or gyroscopes failed.
- It targets particularly alien planets that are around the same size as Earth in the “habitable” regions of their parent star.
- Since 2009, it has discovered extra-solar planets in the range between the size of Earth and Neptune.
- It was the first telescope to find a planet (Kepler-69c) approximately the size of Earth in the habitable region of a star.
- It examined the TRAPPIST-1 system which likely has multiple Earth-sized planets in it between December 2016 and March 2017.

HysIS Satellite

- HysIS Satellite is India’s first hyperspectral imaging satellite for advanced Earth observation, it was launched with the help of PSLV-C43 launcher.
- HysIS will study the Earth’s surface in visible, near-infrared and shortwave infrared regions of the electromagnetic spectrum, with a mission life of about 5 years.
- HysIS will be ISRO’s first full-scale working satellite with this capability.
- A hyperspectral imaging camera in space can provide well-defined images that can help to identify objects on Earth far more clearly than regular optical or remote sensing cameras.
- The technology will be an added advantage of watching over India from space for a variety of purposes such as defense, agriculture, land use, minerals and so on.

Orion Spacecraft

- Orion spacecraft is being designed by NASA to take humans deeper into space than ever before.
- It is the next-generation vehicle that the US is developing to carry astronauts to the Moon and on to Mars.
- It is scheduled to be launched in 2020.
- It is known as Exploration Mission-1 (EM-1).
- European industry has recently handed over a key part of the spaceship infrastructure to NASA.
- This is the first time America has gone outside its shores for such an important piece of human spaceflight hardware
- The European Service Module (ESM) is essentially Orion's back end.

- ESM will provide propulsion, an electricity supply, thermal control, and all the gases and water needed to sustain any humans riding inside the capsule.

Ralph

- It is a space instrument launched by NASA to explore outer solar system.
- It was first launched aboard the New Horizons spacecraft in 2006.
- It revealed images of Jupiter and its moons and Pluto.
- In 2021, Ralph is set to journey with the Lucy mission to Jupiter's Trojan asteroids.
- It will study this diverse group of bodies and will detect trojan asteroid's chemical foot prints.
- It allows scientists to interpret data provided by the Sun's reflected light that are the fingerprints of different elements and compounds.

Tissue Chips in Space

- It is an initiative by NASA to better understand the role of microgravity on human health.
- Under this, NASA is planning to send small devices containing human cells in a 3D matrix known as "tissue chips or organs-on-chips" to the International Space Station (ISS).
- It is to test how they respond to stress, drugs and genetic changes.
- Tissue chips is made of flexible plastic with ports and channels to provide nutrients and oxygen to the cells inside them.
- It is expected to behave much like an astronaut's body, experiencing the same kind of rapid change.

Ibuki – 2

- The Japan Aerospace Exploration Agency (JAXA) has successfully launched Ibuki-2 greenhouse gas observation satellite.
- Ibuki-2 is the successor to Ibuki, which was launched in 2009 as the world's first satellite dedicated to monitoring greenhouse gases.
- It is officially named Greenhouse Gases Observing Satellite, or Gosat.
- The satellite is designed to gather data on the densities of carbon dioxide and methane at 56,000 locations in the Earth's atmosphere to help international efforts to fight global warming.
- The data will be used to see how countries are doing in terms of fulfilling their commitments to reduce greenhouse gases under the 2015 Paris agreement.

ExseedSAT – 1

- It is a CubeSat mission by the Indian private space company Exseed Space.
- It is going to be launched by SpaceX, a private aerospace company, from California satellite launch pad.
- ExseedSAT is about to make history, as it will be the first Indian Private entity satellite to be launched by SpaceX.
- It will be launched on board SpaceX's Falcon 9 rocket.
- The satellite with a communication payload, will provide a major boost to ham radio operators in the country.
- It will be placed in a sun-synchronous low-earth orbit.
- It is expected to have a life of 2 years, depending up on how long the battery lasts and when the satellite de-orbits naturally.

ExoMars

- ExoMars is a joint space venture between European Space Agency and Russian space agency Roscosmos to Mars.
- The ExoMars programme comprises 2 missions.
- The first mission was launched in 2016 and consists of the Trace Gas Orbiter (TGO) and Schiaparelli, an entry, descent and landing demonstrator module.
- The second mission is planned to be launched in 2020 and comprises a rover and surface science platform.
- The rover that will carry a drill and a suite of instruments dedicated to search for possible existence of life beyond earth and geochemistry research.
- It is likely to land on Mars' equator called Oxia Planum, which had housed a massive pool of water in the prehistoric era.



Most Luminous Galaxy

- Atacama Large Millimeter/submillimeter Array (ALMA) telescope in Chile has recently observed the most luminous galaxy in the Universe.
- The light from this galaxy, known as W2246-0526, took 12.4 billion years to reach Earth.
- Its brightness is not due to its stars rather it is powered by a tiny energetic disk of gas that is being superheated as it spirals in on the supermassive black hole.
- The light from the energetic disk is then absorbed by the surrounding dust which re-emits the energy as Infrared light.
- This extreme infrared radiation makes this galaxy one of a rare class of quasars known as **Hot, Dust-Obscured Galaxies** or Hot DOGs.

Kordylewski Clouds

- The Kordylewski clouds are two mysterious swarms of dust trapped between the competing gravitational fields of Earth and the Moon.
- These clouds occupy positions that are called Lagrange points.
- In 1961, Polish astronomer Kazimierz Kordylewski became the first scientist to claim photographic evidence of this dust accumulation phenomenon.
- Recently, team of scientists captured evidence of these clouds at Lagrange point L5.
- They identified it using a technique called sequential imaging polarimetry to detect the extreme faintness of the particles.

Planetary Nebula

- A planetary nebula is formed when a star like our Sun, or a few times heavier, is in its dying days.
- The term was coined by astronomers in the 19th century since the nebula looked like planets through their telescopes.
- Indian astrophysicists have recently discovered planetary nebula called “NGC 6302” using Ultra -Violet Imaging Telescope (UVIT) onboard AstroSat.
- The nebula is popularly known as the Butterfly Nebula.
- They have discovered large ultraviolet lobes and jets that were hurled out from a dying star.

Oumuamua

- Two researchers from Harvard University have claimed that a cigar-shaped rock zooming through our solar system may have been sent by aliens.
- Oumuamua is the first interstellar object known to enter our solar system.
- It accelerated faster away from the sun than expected. This has created the notion that some kind of artificial sail (force of radiation pressure that runs on sunlight) may have pushed it.
- This artificial sunlight known as “Light sail” may be responsible for the excess acceleration of the object.

DEFENCE

INS Arihant

- Prime Minister has recently received the crew of Strategic Strike Nuclear Submarine (SSBN) INS Arihant.
- INS Arihant is the first of five nuclear missile submarines planned for induction.
- It is to be equipped with K 15 (or BO-5) shortrange missiles with a range of over 700 km and the K 4 ballistic missile with a range of 3,500 km.
- At present, the only nuclear - powered platform in service is the INS Chakra, a Akula class SSN on lease from Russia.
- The induction of INS Arihant marks the completion of India’s nuclear triad.
- A nuclear triad refers to the nuclear weapons delivery via land, air and sea i.e. land-based intercontinental ballistic missiles (ICBMs), strategic bombers, and submarine-launched ballistic missiles (SLBMs).

Igla-S missile

- Igla-S is a Russian man-portable Surface to Air missile.
- Russia has recently bagged the contract of Indian Army’s bid for air defence missile.
- Igla-S system has been confirmed as the lowest bidder for the mega deal.

Mission Raksha Gyan Shakti

- Union Defence Minister has launched Mission Raksha Gyan Shakti (Power of Defence Knowledge).
- It aimed at educating scientists and technologists in defence public sector undertakings and ordnance factories OFs to create more patents.
- A target has been set to train approximately 10,000 persons of OFs and DPSUs on IPR in the financial year 2018-19 under the mission.

Samudra Shakti

- It is a bilateral naval exercise between India and Indonesia.
- It is going to be organised at port of Surabaya, Java.
- Indian Naval Ship Rana is going to participate in this year edition of the exercise.
- The aim of the exercise is to strengthen bilateral relations, expand maritime co-operation, enhance interoperability and exchange best practices.
- India and Indonesia shares “Comprehensive Strategic Partnership”.

INDRA

- It is a bilateral joint military exercise between India and Russia.
- It is joint tactical level operations in the peace keeping / enforcement environment under the aegis of UN.
- It is being organised in Babina Military station, Russia.
- This year edition is the 10th exercise in the series of Exercise INDRA.
- INDRA - 2018 focuses on combating insurgency under the aegis of United Nations (UN).

Exercise Dharma Guardian 2018

- Dharma Guardian is an exercise for fostering military and diplomatic ties between India and Japan.
- The primary focus of the exercise was to train and equip the contingents to undertake joint counter insurgency and counter terrorist operations in urban and semi urban terrain.
- The exercise provided and ideal platform for broadening the interoperability and cooperation between armies of India and Japan.

SIMBEX 18

- SIMBEX is the Maritime Bilateral Exercise between Singapore and India, held in the Bay of Bengal.
- The exercise had witnessed successful missile engagements of aerial targets by ships of the two navies, anti-submarine warfare (ASW) and rocket firings.
- Indian Navy Hawk Jet fighters and INS Shakti has participated in the exercise.
- SIMBEX 18 marks the largest edition of these exercises thus far which have been progressing uninterrupted for the since inception in 1994.

EX-INDRA 2018

- EX-INDRA is Indo-Russian joint military exercise, which helps in a common understanding of transnational terrorism, interoperability between the participants.
- The exercise aims for a conduct of joint tactical operations controlled by a Joint Command Post working under the aegis of United Nations.
- The participating contingents also carried out specialized joint training on hostage rescue by slithering from MI-17 helicopters.

OTHERS

VdW Materials

- VdW materials are made of piles of ultra-thin layers that are held together by van der Waals bonds.
- Van der Waals bonds are weak forces exist between molecules of same substance and arise when atoms are in close proximity.
- VdW materials have the potential to replace the current hard drive assemblies in computers and become the key to quantum computing.
- Controlling magnetism is typical of VdW materials.
- The layers in the material can be changed, added or removed in order to introduce magnetism and other new physical properties in the material.

Polarimetry Doppler Weather Radar

- ISRO has inaugurated the Polarimetry Doppler Weather Radar (DWR) at Sriharikota spaceport.



- It provides advanced information, enhances the lead-time essential for saving lives and property in the event of a natural disaster associated with severe weather.
- While conventional radars are able to track and predict cyclones, the DWR provides detailed information on a storm's internal wind flow and structure.
- The polarimetric capability of the radar will significantly improve the accuracy of rainfall estimation leading to accurate and timely flash flood warnings.

Supercomputer

- The world's largest supercomputer designed to work in the same way as the human brain has been switched on for the first time.
- **SpiNNaker machine** – Spiking Neural Network Architecture is capable of completing more than 200 million million actions per second, with each of its chips having 100 million transistors.
- It is designed and built in The University of Manchester in the UK.
- In real time, it can model more biological neurons (basic brain cells in the nervous system that communicate by pure electro-chemical energy) than any other machine on the planet.
- **SpiNNaker Vs Traditional computers** - Traditional computers communicate by sending large amounts of information from point A to B via a standard network.
- Whereas SpiNNaker mimics the massively parallel communication architecture of the brain, sending billions of small amounts of information simultaneously to thousands of different destinations.
- **Uses** – It will help neuroscientists better understand how our own brain works.
- It also has simulated a region of the brain called the Basal Ganglia - an area affected in Parkinson's disease.
- Thus it has massive potential for neurological breakthroughs in science such as pharmaceutical testing.
- Its power has recently been used to control a robot the spOmnibot, which uses the SpiNNaker system to interpret real-time visual information and navigate towards certain objects while ignoring others.

Medical Marijuana

- Cannabis-based drugs have the potential to meet the unmet needs of terminally-ill cancer patients and of those suffering from epilepsy and sickle cell anemia (a hereditary disease that afflicts nearly two crore tribal living mainly in central States).
- Indian scientists are researching on the active ingredients present in the cannabis plant in the management of these diseases.
- Two active compounds of cannabis that are being explored for medical use are Tetrahydro Cannabinol (THC) and Cannabidiol (CBD).
- In India recreational use of cannabis is prohibited under the Narcotic Drugs and Psychotropic Substances Act, 1985.
- The bar does not apply to an edible preparation called bhang, which is allowed in some States.

Earth BioGenome Project

- The Earth BioGenome Project aims to sequence the genomes of the roughly 1.5 million known animal, plant, protozoan and fungal species collectively known as eukaryotes.
- The project will characterize the genomes of all of Earth's eukaryotic biodiversity over a period of 10 years.
- It was officially launched in London with an estimated cost of US\$4.7 billion.
- The last project of a similar scale and importance was the 13-year Human Genome Project which was completed in 2003.
- **Eukaryotes** - The branch of complex life consisting of organisms with cells that have a nucleus inside a membrane—lag far behind the bacteria and archaea.

World's First Genetically Edited Babies

- A scientist in China claims to have created the world's first genetically-edited babies using CRISPR technique.
- The twin girls born with their DNA altered to prevent them from contracting HIV.
- This kind of gene-editing is banned in most countries as the technology is still experimental and DNA changes can pass to future generations, potentially with unforeseen side-effects.

CRISPR

- CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats.
- CRISPR - Cas9 is the most prominent genome editing technique .

- It allows researchers to permanently modify genes in living cells and organisms.
- This can be used to correct mutations at precise locations in the human genome to treat genetic causes of diseases.
- Correcting the mutation in an embryo ensures that the child is born healthy and the defective gene is not passed on to future generations.
- The gene editing tool has two components -
 1. A single-guide RNA (sgRNA) that contains a sequence that can bind to DNA.
 2. The Cas9 enzyme which acts as a molecular scissor that can cleave DNA.

Indian Health Fund

- It is an initiative led by Tata Trusts, in collaboration with The Global Fund.
- It endeavours to leverage the power of collective impact to eradicate tuberculosis (TB) by 2025 and malaria by 2030 from India.
- It supplements the government's efforts to fight the epidemics.
- Tata Trusts is a section 8 company registered under the Companies Act, 2013.
- The Global Fund is an international financing organisation which is headquartered in Geneva, Switzerland.
- It focuses on accelerating the additional resources to end the epidemics of HIV/AIDS, TB and Malaria.
- India contributes to 27 per cent of the global TB burden and 68 per cent of all malaria cases in the Southeast Asia region.
- **Recent development** – India Health Fund has recently announced that it has chosen 4 innovators to effectively tackle eradicate the diseases.

National Monogenic Diabetes Study Group

- It is a national body which has been recently setup to identify cases of monogenic diabetes across the country.
- Monogenic diabetes is a group of disorders where mutation of a single gene causes diabetes.
- The three commonest forms of it - Maturity Onset Diabetes of the Young (MODY), Neonatal Diabetes Mellitus (NDM) and Congenital Hypoglycaemia.
- The study group has been formed with Madras Diabetes Research Foundation (MDRF) as a nodal center.
- Under this initiative, MDRF would provide guidelines to the collaborators for identifying monogenic diabetes.
- **Critical groups to be assessed** - Children below six months of age and those diagnosed as Type 1 diabetes but have atypical features such as milder forms of diabetes, and strong family history of diabetes going through several generations.

Report on Child deaths

- International Vaccine Access Centre (IVAC) has recently released "Pneumonia and Diarrhoea Progress Report".
- The report was released ahead of the 10th World Pneumonia Day on November 12.
- The report looked at progress in fighting pneumonia and diarrhoea in 15 countries which accounted for 70% of global pneumonia and diarrhoea deaths in children under five.
- Globally, pneumonia and diarrhoea led to nearly one of every four deaths in children under five years of age in 2016.
- According to the report, India continues to have the highest burden of pneumonia and diarrhoea child deaths in the world.
- India's progress – Coverage of Haemophilus Influenzae Type B (Hib) vaccine and introduction of rota virus vaccine led to improvement in addressing diarrhoea deaths.
- Pneumococcal Conjugate Vaccine (PCV) was introduced in 2017 under Universal Immunisation Programme (UIP) to address pneumonia.

Global Fight on Malaria

- The World Health Organisation in its recent report has revealed that global efforts to fight Malaria stalled.
- The number of cases of the disease climbed by 2 million to 219 million in 2017.
- The international funding to fight the disease has declined in the recent years.
- **Malaria** is a life-threatening disease caused by Plasmodium parasites.
- It is transmitted to people through the bites of infected female Anopheles mosquitoes.



- The mosquito transmits the parasite in to bloodstream and after it gets matured it begin to infect red blood cells.
- There are 5 parasite species that cause malaria in humans, and 2 of these species *P. falciparum* and *P. vivax* pose the greatest threat.
- It is preventable and curable.
- An infected mother can also pass the disease to her baby at birth. This is known as congenital malaria.
- Malaria is transmitted by blood, so it can also be transmitted through:
 1. an organ transplant
 2. a transfusion
 3. use of shared needles or syringes

Goat Plague

- A smart vaccine has recently been developed for Goat Plague disease by the researchers from UK and India.
- The vaccine has the potential to help eradicate goat plague, which causes losses of billions of dollars a year.
- Goat plague is a highly contagious viral disease that afflicts goats and sheep in many parts of the country.
- It is caused by a morbillivirus in the family of paramyxoviruses, that is related to rinderpest, measles and canine distemper.
- It kills small ruminants in large numbers unless they are vaccinated.
- Apart from India, goat plague is prevalent in many African countries, West Asia, China and Mongolia.
- It is listed in the OIE (World organization for Animal Health) Terrestrial Animal Health Code, and countries are obligated to report the disease to the OIE.

Hantaviruses

- Hantaviruses are a group of viruses that may be carried by some rodents.
- It was first identified in the year 1993.
- It can cause severe and sometimes fatal respiratory infections and are known to infect lung cells.
- It can cause a rare but deadly disease called Hantavirus Pulmonary Syndrome (HPS).
- It is transmitted to humans who inhale the virus from the urine, faeces, or saliva of infected rodents.
- No treatments or vaccines are available.
- Infections caused by them are expected to increase in the coming decades as temperatures across the globe rise due to climate change.

INDEX AND REPORT

Logix India 2019

- It is the upcoming logistics meet to be held in New Delhi.
- Delegates from more than 20 countries including Afghanistan, Iran and Iraq are expected to participate.
- It will be organized by the Federation of Indian Export Organisations (FIEO).
- It is aimed at exploring logistics partnerships with India and will improve logistics cost effectiveness and operational efficiencies for India's global trade.
- It will focus on investment opportunities in infrastructure development, warehouse consolidation, technology integration and IT enablement and skilling of manpower.
- India is ranked 44 in the World Bank Logistics Performance Index 2018.
- Logistics costs in India are 13-15% of the product cost, while the global average is 6%.

Inclusive Wealth Report (IWR)

- IWR is a biennial effort led by the UN Environment, which provides important insights into long-term economic growth and human well-being.
- The Index measures the wealth of nations through a comprehensive analysis of a country's productive base and the country's wealth in terms of progress, well-being and long-term sustainability.
- The biennial report finds The Republic of Korea, Singapore and Malta as the nations that have had the most economic growth.
- The report also revealed that carbon damage is relatively larger in high-income countries.