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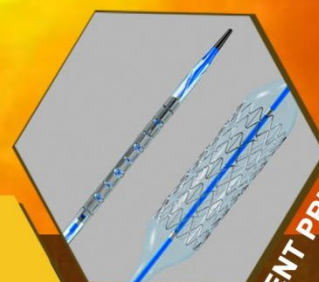
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Plot No.1742, Ist Floor, 18th Main Road,
Anna Nagar, Chennai – 600 040.

Phone : 044-26216435, 4353 3445,

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GS PAPER II

1. INDIAN CONSTITUTION

1.1 SDMC'S ORDER

Why in news?

South Delhi Municipal Corporation (SDMC) made it mandatory for all hotels and restaurants in its jurisdiction to give full access to the general public to their toilet facilities.

What the order has said?

- The move is part of a **soon-to-be national campaign** to make more toilet facilities available to the public, with special focus on women and children.
- The broad ideas are hygiene and security.
- The suggestion came from Delhi Lieutenant Governor who urged SDMC to explore the possibility.
- Restaurant managements have been given the discretion to charge up to Rs 5 per use of their toilets.
- SDMC claims that as a result of the initiative, an additional 3,500 toilets will be accessible to the public.
- By roping in hotels and restaurants along with petrol pumps, it would make as many toilets available to the public as possible.

What is the reaction of the public?

- The decision has produced mixed reactions from restaurant owners.
- One side has complained of an **undermining of their 'rights of admission'**.
- Other side has pointed out that it is **insensitive to deny access** to an individual who needs to use the restroom.
- Both sides agree that the proposed Rs 5 charge to ostensibly cover costs of maintenance and cleaning.
- The restaurants have responded that they **are willing to open their toilets to ladies**, but they have security concerns in opening the same to men.
- Also, they are **concerned about hygiene**, particularly because of the inadequate availability of water, to take on extra users.

How does the SDMC justified its decision?

- The corporation maintains that because restaurants get health trade licences from the corporation, they are bound to follow its orders.
- Also, a study commissioned by the Centre in 2015 to gauge the progress of Swachh Bharat programmes put Delhi at the 16th position.
- While on paper, the SDMC has 600 urinals and roughly 400 toilet complexes in its jurisdiction, **most of them are unusable**.
- Maintenance of the SDMC's public facilities is poor because the corporation does not have jetting machines that spray water at high pressure to clean the toilets.
- So, in the light of the SDMC order, it is pertinent to consider, the state of its existing public utilities also.

Why it is not a proper solution?

- The SDMC direction is a **typical example of a quick fix**, without looking at the full system, including the availability of toilets, water for flushing, the sewerage network, sewage treatment and provisions for discharge of the treated sewage into waterbodies.
- Instead of outlining a programme incorporating these elements, the **problem is trivialised** by shifting attention away from the inaction of the government by asking restaurants to open their toilets to the public.
- Since many restaurants are normally open only during meal times, this, in any case, **is not a solution round the clock**.

What could be done?

- The solution lies in **building more public toilets** and ensuring they are properly maintained and financially sustainable.
- Most public toilets are single-storey buildings; they could easily have another floor of toilets, thereby doubling the capacity without any need for additional land.
- **Select Citywalk Mall in Saket**, is a good example. It has several toilets for the public on all its floors, which are used by visitors and staff from different stores in the mall.
- The maintenance contract is given to an outside agency and the toilets are kept clean.
- There is no user charge and the costs are recovered from the rents that shops pay to the mall authorities.
- So, it should be possible to do something similar in the markets of different Delhi localities.
- Another possible approach for the SDMC would be to use **public-private partnership**, not only to build toilets, but provide and/or fix the different links in the supply chain of managing and disposing waste.
- **Sewage treatment plants** can also be built on land leased by the government and capital invested by the private sector.

1.2 THE RIGHT TO RECALL

What is a recall election?

- A recall election (also recall referendum) is a procedure by which voters can remove an elected official from office through a direct vote before their term has ended.
- Recalls, which are initiated when sufficient voters sign a petition, have a history dating back to the ancient **Athenian democracy** and are a feature of several contemporary constitutions.
- It has been in place in Canada's Legislative Assembly of British Columbia since 1995.
- In the United States, several states allow for recall on specific grounds such as misconduct or malfeasance.

India and Right to Recall:

- This is not a new concept for India. The concept of "**Rajdharm**", wherein the lack of effective governance was a cause for removal of a king, has been spoken about since the Vedic times.
- M.N. Roy, in 1944, proposed a shift to a decentralised and devolved form of governance, allowing for representatives to be elected and recalled.

- **The ROPA, 1951**, only provides for “vacation of office upon the commission of certain offences and **does not account for general incompetence** of the representatives or dissatisfaction of the electorate as a ground for vacation”.
- Nearly a decade ago, Lok Sabha Speaker Somnath Chatterjee sought the introduction of a system of a “Right to Recall” of a legislator to ensure accountability.
- The Right to Recall also exists at local level bodies in Madhya Pradesh, Bihar and Chhattisgarh.
- There exists no recourse for the electorate if they are unhappy with their elected representative.

What are the advantages?

- **A free and fair election is a right** of the citizens of the country. When their elected representatives no longer enjoy the confidence of the people, the people must have a right to remove them.
- Right to Recall is a right that would act as a significant **check on corruption** along with ongoing criminalisation of politics.
- Studies highlight that elected representatives who are not up for election behave differently to those who are.
- The true idea of democracy can only be achieved on this edifice of accountability for politicians.
- Having a process to recall **could also limit campaign spending**, as morally skewed candidates weigh the risk of being recalled.
- This right would help **engender direct democracy** in our country, broadening access and raising inclusiveness.
- To deepen democracy, the right to recall must be given hand in hand with the right to vote.

What could be done?

- However, due care must be taken in the introduction of legislation associated with such laws.
- To encourage the process of the right to recall, **legislative change is needed** which seeks to introduce recall petitions, for elected representatives in the Lok Sabha and in Legislative Assemblies.
- It is necessary to ensure that a recall process is not frivolous and does not become a source of harassment to elected representatives.
- Thus, the process should have several **built-in safeguards** such as an **initial recall petition** to kick-start the process and electronic-based voting to finally decide its outcome.
- Furthermore, it should ensure that a representative **cannot be recalled by a small margin of voters** and that the recall procedure truly represents the mandate of the people.
- To ensure transparency and independence, **chief petition officers** from within the Election Commission should be designated to supervise and execute the process.

1.3 INTERNET AS A BASIC HUMAN RIGHT

What is the issue?

- Kerala promises to deliver a new optic fibre network, Wi-Fi transmission centres and free Internet facility to two million poor families.
- Kerala's finance minister, thus, affirmed **access to Internet as a right for every citizen**.

- With this, the southern state joined a clutch of countries like Finland, Estonia, France, Spain, Greece and Costa Rica that have declared the Internet a basic human right.

Why it should not be a basic human right?

- But can access to Internet in general be defined as a basic human right? Vinton G. Cerf, a “father of the Internet” (sharing this title with Bob Kahn) doesn’t think so.
- In an article, Cerf argued, that the move to declare the Internet as a human right may be well intentioned but misses the point that “**technology is an enabler of rights, not a right itself**”.
- Cerf says that by allowing for the Internet to be defined as a **civil right** which is “conferred upon us by law” as opposed to a **human right** which is “intrinsic to us as human beings.”
- This brings us to another distinction, i.e., one between positive rights and negative rights, which is more important to developing countries like India.
- **Negative Rights:** They are intrinsic to us as human beings and the Constitution merely guarantees the protection of such rights.
- The Constitution usually curtails the power of government or other entities in performing certain actions which violate the negative rights of the individual.
- The right to equality or the right to freedom of expression enshrined in the Constitution of India are examples of such rights.
- **Positive Right:** It enables the holder of the right to claim a good or a service against the state or someone else.
- These rights/entitlements—require fiscal allocations and hence are subject to budgetary constraints. (Ex. MGNREGA, RTE etc.,)
- Cerf’s idea of right to the Internet as a civil right also comes under the banner of positive rights.
- **Positive rights, thus become justiciable** and enable the citizens to demand better services from their governments.
- Moreover, declaration as rights **enables centralization of power**.
- A right to education, for instance, mandates a kind of standardization for every corner of the country without taking into account the granular differences on the ground.
- The usefulness of the Internet cannot be overstated and the government should do everything possible to bridge the digital divide among its constituents.
- But declaring access to the Internet as a citizen’s right is not a defensible proposition.

1.4 PARTICULARLY VULNERABLE TRIBAL GROUPS

Why in news?

A recent Anthropological Survey of India (AnSI) publication has brought to the fore startling revelations about the **Particularly Vulnerable Tribal Groups (PVTGs)** in the country.

What the finding has revealed?

- The publication provides one of the most **detailed descriptions of PVTGs** with each of the tribes being discussed in separate chapters.

- The findings revealed that, for the 75 PVTGs, base line surveys exist only for about 40 groups.
- **Base line surveys** are done to precisely identify the PVTG families, their habitat and socio-economic status, so that development initiatives are implemented for these communities, based on the facts and figures.
- It emphasizes State govts must urgently conduct such surveys to arrive at accurate demographic and socio-economic figures of the PVTGs.
- Among the 75 listed PVTG's the highest number are found in Odisha (13), followed by Andhra Pradesh (12).
- All the **4 tribal groups in Andamans, and 1 in Nicobar Islands**, are recognised as PVTGs.
- The publication also points out that the PVTG list requires revising and refinement to avoid overlapping and repetition.
- Regional and State-specific variations in welfare schemes for PVTGs has also been highlighted.
- There is a **huge variation in the number of PVTGs** ranging from a few individuals as in case of Great Andamanese to about a little more than a thousand people as in the case of Toda of Nilgiris.
- Although PVTGs are **slowly witnessing decadal increase in their population**, quite a few still face stagnation such as the **Birhor** in central India. Some are **declining like the Onge and Andamanese**.
- Smallest population size among the PVTGs are the **Senteneles** (as per the last contact effort on 2005, groups of **32 and 13 persons** were sighted at different places).
- The Great Andamanese (57 persons) and the Onge (107 persons in 2012 as per Andaman AdimJanjatiVikasSamiti) are also dwindling.
- The **Saharia people of Madhya Pradesh and Rajasthan** are the largest among the PVTGs with population more than 4 lakhs.
- Literacy rate among the PVTGs has gone up significantly over the past from single digit to 30 to 40 % in many of the PVTGs.
- However, as is the case with entire India, female literacy rate is still considerably lower compared to male counterpart.
- There is a considerable **increase in the age of marriage** among PVTGs.
- The incidence of girl child being married while still being a minor, among these tribes has been decreasing.

1.5 BACKWARD CLASSES COMMISSION

Why in news?

The Union cabinet recently decided to replace the existing National Commission for Backward Classes (NCBC) with a new constitutional body, named the National Commission for the Socially and Educationally Backward Classes (NCSEBC).

How NCSEBC is different from NCBC?

- NCSEBC will be a constitutional body (like the commissions for the Scheduled Castes and Tribes) rather than a statutory body, like the NCBC.
- Though this has less practical distinction, it could have important political implications.

- A modest agenda will limit itself to placing the NCSEBC on par with the National Commission for the Scheduled Castes (NCSC) and the National Commission for the Scheduled Tribes (NCST).
- This would require amendments to the Constitution, introducing additional Articles comparable to the existing Articles 338 and 338A (which establish the NCSC and NCST respectively), and 341 and 342.
- These changes shift responsibility for amending the list of Other Backward Classes (OBCs) from the government to Parliament.
- It also effectively takes away the power that the states currently have to determine their own OBC lists.

What will be the impact?

- This does not alter the basic rules of the game, namely the definition of the category “socially and educationally backward classes” and the existing limit of 50% on the total share of various reservation quotas.
- Now that Parliament would have to decide whether to grant OBC status, it would no longer be possible for opposition parties to stoke agitations without bearing responsibility for the consequences.
- The burden of handling the inevitable conflicts arising from a zero sum situation could also be shifted from the ruling party to Parliament. A
- A Zero sum situation arises where the entry of new castes necessarily implies a decline in the share of castes already included.

How does making the NCBC a constitutional body help?

- Under the NCBC Act, the Commission merely has the power to recommend inclusion or exclusion of communities in the OBC list.
- The new Bill will allow it to look into all matters regarding the welfare and development of backward classes, as well as to investigate complaints.
- Currently, the Scheduled Castes Commission, which looks into cases of atrocities against Dalits, is also in charge of hearing grievances from OBCs.
- The amended Bill will give the Commission powers equivalent to that of a civil court.
- The Commission, which will have a chairperson, vice-chairperson and 3 members, will regulate its own proceedings.

Why has the Bill become contentious?

- The Bill makes Parliament the final authority on inclusion of communities in the OBC list and, therefore, takes away the authority of states which can now send requests to the.
- Until now, the NCBC's recommendations with regard to inclusions and exclusions in the list are binding on the government.
- Lok Sabha passed the Bill. However, when it was placed before Rajya Sabha, several members said such an important constitutional amendment could not be approved without proper study.
- Therefore the Bill was referred to a Select Committee.
- The 25-member Committee will submit its report during the Monsoon Session.
- This also means that there would be no NCBC in place unless the Bill is passed.

- The term of the last member of the NCBC ended and no appointments have been made since then in anticipation of the new Bill.

What are the shortcomings?

- Parliament will determine who is a BC for the 'Central' List, not NCBC.
- New NCBC has **no responsibility to define backwardness**, so it cannot address the current challenge of well-off castes' demands to be included as BCs.
- **Article 340** deals with the need to identify "socially and educationally backward classes", understand the conditions of their backwardness, and make recommendations to remove the difficulties they face.
- The 123rd amendment delinks the whole folio of backward classes from Article 340 and brings it closer to provisions related to SC/STs.
- The main shortcoming of the current NCBC is that it has **no power "to hear the grievances" of the BCs.**
- Curiously, the SC commission has become the gold standard for those demanding the new NCBC. If the new body is as incompetent as its role model, the nation will be spared of a lot of avoidable problems.
- The proposed system will treat the developmental issues related to BCs on a par with caste discrimination and untouchability suffered by SCs and even by STs.
- The new NCBC will hear grievances, inquire into complaints, summon officials given its **powers as a civil court**, issue directions and have the right to be consulted by both Union and the States on policy matters related to BCs.
- The whole business of inquiries into complaints, safeguards, recording evidence, etc. will result in the need to enact laws similar to the ones in existence for the protection of SC/STs.
- One is right to assume that BCs do face discrimination and exclusion and they deserve state support. But there is no justification to suppose that their conditions are as bad as those faced by the SC/STs.

1.6 BLANKET BAN ON ONLINE SEARCH

Why in news?

The Supreme Court said that it could not direct online search engines to block all texts pertaining to pre-natal sex determination tests as it would deprive researchers, academicians and students valuable information on the issue.

What the SC has said?

- The Supreme Court said that, citizens have the right to access the Internet to gain information, wisdom and knowledge and their right cannot be curtailed unless it encroaches into the boundary of illegality.
- It observed that the **fundamental right of expression** includes "the right to be informed and the right to know and the feeling of protection of expansive connectivity", the Internet offers this on the click of a button.
- The court clarified that a general prohibition on all online content about pre-natal sex determination will curtail the fundamental right to know of a genuine information-seeker.
- A three-judge Bench held that, if somebody intends to search for 'medical tourism in India', he is entitled to search as long as the content does not frustrate or defeat the restriction postulated under **Section 22 of the PCPNDT Act.**
- The three Internet search engines — Microsoft, Google India and Yahoo! India — gave their assurances to the Supreme Court that they would neither advertise nor sponsor advertisements violative of the PNPCDT Act.

- The trio said they had already appointed ‘in-house’ experts to spot illegal content and pull them down.
- The centre has said nodal officers had been appointed at State levels to keep tabs on the Net for offensive material contravening Section 22 of the Act.
- In case the nodal officers detect illegal online content, they would communicate with the search engine’s experts, which would take it off within the next 36 hours of receiving the information.

1.7 CONSTITUTION BENCH ON PERSONAL LAWS

What is the issue?

Constitution Bench of the Supreme Court is scheduled to hear petitions challenging whether personal law practices like triple talaq and polygamy violate the constitutional rights of Muslim women.

What is the case about?

- In this case, the Centre has sought to re-open the debate as to **whether personal laws can be brought under the ambit of Article 13** i.e., laws inconsistent with or in derogation of the fundamental rights of the Constitution.
- If the Supreme Court agrees that personal laws are to be included under **Article 13**, then an aggrieved person can challenge a particular personal law of a religion as violative of the fundamental rights and make it void.
- The Centre has also asked SC to determine whether the triple talaq, nikahhalala and polygamy are protected under the **freedom of religion under Article 25**.
- The Centre has argued that polygamy and triple talaq are not religious practices but social norms and customs which can be intervened on by the State if they are found to be violative of constitutional rights.

What is the precedence?

- The courts have in past made **conflicting notes** about the immunity enjoyed by personal laws.
- The Bombay High Court held that personal law is not ‘law’ under Article 13.
- Supreme Court rejected to consider if unilateral divorce by talaq and polygamy were violative of Articles 14 and 15, saying it was for the legislature to determine.
- In December 2016, the Allahabad High Court had observed in a case that triple talaq was “cruel” and judicial conscience was “disturbed.”

1.8 RIGHT TO VOTE

What is the issue?

- Article 326 of the Constitution provides for universal adult suffrage, but does not specifically mention the right to vote.
- The absence of a constitutional right to vote has consequences.

How courts determine the electoral system?

- Supreme Court requested the government’s views on a PIL seeking to impose a lifetime ban on contesting elections for those sentenced to imprisonment for more than two years.

- Currently, the ban extends to six years after the completion of a sentence.
- The court has held that citizens are entitled to cast a ‘none of the above’ vote, that the concealment of criminal antecedents constitutes a corrupt practice under the law, and that electoral appeals to caste and religion are impermissible.
- More recently, the court has attempted to gradually reshape the ballot.
- They raise fundamental questions about the nature of our democracy.

What are the problems?

- The court has increasingly used the regrettable, caste-based taxonomy of ‘purity’ and ‘pollution’ in its decisions.
- e.g In 2013, it endorsed the decision of the Patna High Court observing that candidates with criminal records pollute the electoral process, affect the sanctity of elections and taint democracy.
- The court’s language is symptomatic of its conception of its own role to ‘disinfect’ the electoral process.
- Rights that are not explicitly set out in the Constitution, such as the right to privacy, have routinely been impliedly read into the text.
- But the court has refused to categorically recognise the right to vote as an inalienable constitutional right.
- This could mean that it is a privilege that can be taken away as easily as it is granted.
- Participation in the electoral process is often seen as a gateway right, or a ‘right of rights’.
- The absence of a constitutional right to vote makes it easier to impose wide restrictions on who can exercise that right, and the circumstances in which they may do so.
- This can be seen in the court’s endorsement of the ban on the voting rights of prisoners.
- Blanket prohibitions on voting are the surest way of alienating a political community.
- The ban is draconian as it disregards the seriousness of their offences or the length of their sentences.
- Moreover, prisoners awaiting trial are also denied this ‘privilege’.
- The court’s move to change the rules of the game to match its own conception of the ideal electoral system is detrimental.
- The right to vote and the right to contest elections are fundamental markers of citizenship in a constitutional democracy.

1.9 ARTICLE 142

Why in news?

Recently SC invoked Article 142 of the Constitution of India, prohibiting the sale of liquor.

What is Article 142?

- Article 142 empowers the SC to pass any decree or order necessary for doing “complete justice” in any matter pending before it.
- But the recent order is not the outcome of a legal suit between parties.

- The location of hotels, restaurants or vends, selling liquor is a pure policy decision, best left to governments to take.
- Liquor is within the exclusive domain of state legislatures.

What is the effect of misusing 142?

- The cancellation of all telecom licenses to serve the cause of public interest without individual culpability jeopardised the survival of entities.
- The consequences of cancellation of all allocations of coal mines have adversely impacted the balance-sheets of public sector banks.
- One of the consequences of such omnibus cancellations is defaults on bank loans. The consequent NPAs impact the economy.
- The decision to ban the sale of diesel cars with an engine capacity of 2000 cc jeopardised possible foreign investment.

What should be done?

- Constitutional concept of the separation of powers should not be overlooked.
- It should not become an instrument to deal with every ill that confronts this country. Other proper channels should be used.
- Article 142 of the Constitution should be used judicially.
- Use of Article 142 has economic consequences that tend to destabilise the economy.
- For the court to be completely isolated from this populist environment is not easy. Judges might be swayed by what we read.
- So they have to be exceptionally careful in rendering decisions, which cause unintended consequences.
- Recourse to Article 142 of the Constitution is inappropriate, wherever a statutory remedy is available.

1.10 SECTION 295A AND 153A OF IPC

What is the issue?

The Supreme Court, in late April 2017, has intervened to spare Mahendra Singh Dhoni the ordeal of facing a criminal trial for allegedly insulting the Hindu religion by being featured in the likeness of a deity on the cover of a business magazine.

What the court has said?

- The court quashed a criminal complaint filed under **Section 295A of the IPC**, a provision that makes “deliberate and malicious acts intended to outrage religious feelings” a punishable offence.
- The court said **there was no deliberate intent** on the part of the cricketer or the magazine to hurt religious sentiments.
- It drew upon the interpretation given to Section 295A by a Constitution Bench as early as in 1957 that it only “punishes the aggravated form of insult to religion **when it is perpetrated with the deliberate and malicious intention** of outraging the religious feelings of that class”.

What is Section 153A of IPC?

- Another much misused section is **IPC 153A** – which intends to punish those who **promote enmity between different groups** on grounds of religion, race, place of birth, residence and language, and doing acts prejudicial to the maintenance of harmony.
- This section has been employed to **harass writers and artists** and cast a chill on free expression.
- The problem with insult laws, irrespective of the form they assume, is that they are **inherently subjective**.
- In this respect, Section 295A and 153A resemble our controversial contempt of court law – there is no saying what will scandalise a judge and therefore no saying when and for what contempt may be invoked.

What is the way forward?

- Judicial relief does come in the end, but the bitter truth is that the process is the punishment.
- It is time our **lower courts stop taking reflexive cognisance of trivial cases** filed on the basis that the religious, caste or cultural sensitivities of some group have been offended.
- These sections need to be read down, their **scope narrowed** in a way that moral vigilantes and those who affect an emotional victimhood can no longer exploit the law to serve their narrow ends.

1.11 UPENDING PRINCIPLES OF NATURAL JUSTICE

Why in news?

The Election Commission's proposal to have the Representation of People Act (RPA) amended to disqualify legislators charge-sheeted for bribing voters is well-intentioned but bad in principle.

What happened?

- The EC has drawn its recommendation from a proposal the Law Commission mooted in 2014.
- It attempts to turn the dictum of any justice system on its head, i.e., that a person is innocent until proven guilty.
- The Commission had called for **including a new section in the RPA** to expand the ambit of the disqualification provision to include a person against whom “**a charge has been framed by a competent court** for an offence punishable by at least five years imprisonment” for a period of six years.
- Or “till the date of quashing of charge or acquittal, whichever is earlier”.
- The EC has also sought to make **bribery a cognisable offence** under the CrPC, which would bestow on the police the authority to arrest an accused without a warrant.
- These are draconian measures, which violate **the principles of natural justice**.

What is the principles of natural justice?

- Natural justice implies fairness, reasonableness, equity and equality.
- Natural justice is the concept of common law and it is the common-law world counterpart of the American ‘procedural due process’.
- In India, the principles of natural justice are **firmly grounded in Article 14 and 21 of the Constitution**.
- Principles of natural justice are attracted whenever a person suffers a civil consequence or a prejudice is caused to him in any administrative action.

- These two are the basic pillars of the Principles of Natural Justice. No system of law can survive without these two basic pillars.
 - Nemo in propriacausajudex, essedebet – ‘No one should be made a judge in his own case, or **the rule against bias.**’
 - Audi alterampartem – ‘Hear the other party, or **the rule of fair hearing,** or the rule that no one should be condemned unheard.’

What is the problem with the move?

- The call for such a drastic measure evidently stems from the failure to curb corruption in elections.
- It is said that the RPA provisions have failed to act as a deterrent against electoral malpractices since trials extend for years and rarely result in convictions.
- The RPA, indeed, has a provision to disqualify and **bar a legislator if convicted for poll graft.** However, the keyword here is **conviction.**
- It is true that, democracy needs to be cleansed of electoral malpractices, but that must be done by the patient labour of improving processes and reforming institutions.

What is the way forward?

- The way out is to **reform the judicial process** and ensure early and time-bound trial and closure in cases.
- Surely, there must be effective deterrence to prevent the subversion of due process, but the onus for ensuring that must to be on institutions.

1.12 SUPREME COURT ORDER ON LOKPAL

Why in news?

The Supreme Court recently ordered on the appointment of the Lokpal.

What is the order about?

- Leader of Opposition (LoP) in Lok Sabha is a part of the selection committee of Lokpal.
- The second largest part in Lok Sabha should have at least 10% of the total LS seats in order to get the status of Opposition Party.
- There is no LoP in the current House, since the Congress does not have the required 10% seats.
- An amendment has been proposed to substitute the position of the Leader of Opposition in Lok Sabha with the leader of the single largest opposition party on the selection committee.
- The Court order clarified that The Lokpal can be appointed under the Lokpal and Lokayuktas Act, 2013, without waiting for then amendment.
- The court clarified that there is no justification to keep the enforcement of the Act under suspension till the amendments are carried out.

What should be done?

- It is time for a Lokpal in India.

- But equally, it is crucial that the institution should be fair and independent, that it should rise above partisan political interests and be insulated from government interference.
- In this context, the presence of the LoP on the selection committee, alongside the PM, LS Speaker, Chief Justice of India or his nominee and an eminent jurist, is enormously important.
- It is a real and symbolic assurance of the institution's autonomy from the ruling regime.
- The court order is also against the principle of separation of powers that is so fundamental to a constitutional democracy.

1.13 ASSAM ACCORD 1985

Why in news?

- All Assam Students' Union (AASU) met Union Home Minister Rajnath Singh along with Assam Chief Minister SarbanandaSonowal. It was the first tripartite discussion on the Assam Accord since May 2005.
- Thirty-two years after it signed the Assam Accord with the Centre and the Assam government in 1985, **the AASU is still upset** that major issues mentioned remain unresolved.

What is Assam Accord?

- The Assam Accord (1985) was a Memorandum of Settlement (MoS) signed between representatives of the Government of India and the leaders of the Assam Movement in New Delhi on 15 August 1985.
- The accord **brought an end to the Assam Agitation** and paved the way for the leaders of the agitation to form a political party and form a government in the state of Assam soon after.
- **Some of the key demands were** – All those foreigners who had entered Assam between 1951 and 1961 were to be given full citizenship, including the right to vote.
- Those who had done so after 1971 were to be deported; the entrants between 1961 and 1971 were to be denied voting rights for ten years but would enjoy all other rights of citizenship.
- A parallel **package for the economic development** of Assam, including a second oil refinery, a paper mill and an institute of technology, was also worked out.
- The central government also promised to provide '**legislative and administrative safeguards** to protect the cultural, social, and linguistic identity and heritage' of the Assamese people.
- Though the accord brought an end to the agitation, some of the key clauses are yet to be implemented, which has kept some of the issues festering.

What was discussed during the tripartite talk?

- While describing the talks as "positive" and "encouraging", Gogoi said the AASU would oppose any move by the Centre to pass the Citizenship Amendment Bill that proposes to grant citizenship to Hindus from Bangladesh.
- Gogoi said, "The Constitution of India, as also the Assam Accord, **does not differentiate among illegal migrants and foreigners on the basis of religion**. We made it clear before the home minister that we will stiffly oppose any such move."
- The AASU leader said Rajnath assured them the Centre would not do anything that would "dilute" the accord.

- The AASU says that since 1985, when the Assam Accord was signed, **nothing concrete has been done by the Centre** for providing constitutional, legislative and administrative safeguards to protect, preserve and promote the cultural, social, linguistic identity and heritage of the indigenous communities of Assam.
- AASU and the AsomGanaParishad have also been expressing concern over the growing clout of illegal migrants and people of that descent in the state's political arena.
- The Union home minister has assured the AASU that the Centre was committed to a flawless exercise for updating the National Register of Citizens and providing constitutional and economic safeguards to the indigenous people.

2. GOVERNMENT POLICIES AND INTERVENTIONS

2.1 BAN ON HARMFUL DRUGS

What is the issue?

Even after giving its assurance on banning 37 harmful drugs, government is yet to take a considerable action on it.

What is a fixed dose combination drug?

- Combination drugs or fixed dose combination (FDC) drugs are those with two or more active pharmaceutical ingredients combined in a fixed dose to form a single drug.
- Commonly used medications such as paracetamol, aceclofenac and nimesulide are FDC.
- Government following the recommendation of the Kokate committee banned 344 fixed dose combination medicines many of which are household names.
- Under Section 26A of the Drugs Act, a drug can be banned only after the licence holder of that drug is given a three-month notice.
- But government said, these drugs were banned due to their ability to cause "antibiotic resistance".
- Later the Delhi high court struck down the ban stating that the government had acted in a "haphazard manner".
- Still many such FDC's exist in India.

What is antibiotic resistance?

- Antibiotic resistance is the ability of a microorganism, which is causing the disease, to withstand the effects of an antibiotic medicine.
- Indiscriminate prescription of antibiotics and laxity of enforcement laws are the main causes of antimicrobial resistance.

What is the function of DCGI?

- Drug Controller General of India under the gamut of Central Drugs Standard Control Organization is responsible for approval of licenses of specified categories of drugs such as blood and blood products, IV fluids, vaccines and sera in India.
- DCGI lay down the standard and quality of manufacturing, selling, import and distribution of drugs in India.
- It acts as an appellate authority in case of any dispute regarding the quality of drugs.
- It prepares and maintains national reference standard.

- It brings about the uniformity in the enforcement of the Drugs and Cosmetics Act.
- It trains Drug Analysts deputed by State Drug Control Laboratories and other Institutions.

What is the significance of banning?

- Department of Health Research (DHR) requested the Drug Controller General of India (DCGI) and senior health ministry officials last year with a request to ban 37 drugs that termed to be “very harmful”.
- But these drugs continue to be freely available in the market.
- The DCGI suggested to the health ministry that a committee should be formed to look into this matter.
- But no such panel had been formed till date.
- The 37 fixed-dose combinations (FDCs) listed by DHR are commonly used antibiotics.
- e.g Cefpodoxime & Clavulanate - used to treat diseases like pharyngitis, urinary tract infection, gonorrhoea and pneumonia.
- This drug is sold by more than 70 companies in India under different brand names.
- Due to these drugs there is a risk of increase in antibiotic resistance in India.

2.2 IMPORT REGULATIONS

Why in news?

In a bid to streamline the process of clearance for imported foods, the Food Safety and Standards Authority of India (FSSAI) has notified import regulations.

What are the key highlights of the regulations?

- The regulations include provisions for risk-based framework under which the food regulator may adopt a **risk-based inspection process and** review risks associated with articles of food imports from time to time.
- The comprehensive regulations would facilitate ease of trade and ease of doing business while ensuring that the health of the consumers is not compromised.
- It has laid down procedure for clearance of imported food products into India.
- It has various provisions related to licensing regime for food importers.
- It also includes provisions for food import clearance for specific purposes, storage, inspection and sampling of imported food articles and prohibition and restriction on food imports, besides labelling provisions for import of food products.
- The regulation specifies the scheme for risk-based sampling imported food articles, which facilitates ease of doing business while not compromising the health of the public.

What is the way ahead?

- The food authority should also introduce a pre-arrival document review for regulating imports.
- The regulator should also enter into memoranda of understanding with relevant agencies in exporting countries for accelerated clearance of food imports from the countries to facilitate ease of doing business.
- It should issue food alert notifications, including time-bound prohibition on articles of food or prohibiting source or recalls, based on the risk associated with the articles of food.

2.3 HIV AND AIDS PREVENTION BILL, 2017

Why in news?

Recently, the Parliament passed the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) (Prevention and Control) Bill, 2017.

What is the aim of the bill?

- The Bill seeks to **prevent and control the spread** of HIV and AIDS, **prohibits discrimination** against persons with HIV and AIDS.
- It provides for informed consent and confidentiality with regard to their treatment, places obligations on establishments to safeguard their rights, and creates mechanisms for redressing their complaints.

What are the provisions of the bill?

- **Prohibition of discrimination against HIV positive persons:** The Bill lists the various grounds on which discrimination against HIV positive persons and those living with them is prohibited.
- These include the denial, termination, discontinuation or unfair treatment with regard to: employment, educational establishments, health care services, residing or renting property, standing for public or private office, and provision of insurance.
- The requirement for HIV testing as a pre-requisite for obtaining employment or accessing health care or education is also prohibited.
- Every HIV infected or affected person **below the age of 18 years** has the right to reside in a shared household and enjoy the facilities of the household.
- It also prohibits any individual from publishing information or advocating feelings of hatred against HIV positive persons and those living with them.
- **Informed consent and disclosure of HIV status:** The Bill requires that no HIV test, medical treatment, or research will be conducted on a person without his informed consent.
- No person shall be compelled to disclose his HIV status except with his informed consent, and if required by a court order.
- Informed consent for an HIV test will not be required in case of screening by any licensed blood bank, a court order, medical research, and epidemiological purposes where the HIV test is anonymous and not meant to determine the HIV status of a person.
- Establishments keeping records of information of HIV positive persons shall adopt data protection measures.
- **Role of the central and state governments:** The central and state governments shall take measures to:
 - prevent the spread of HIV or AIDS,
 - provide anti-retroviral therapy and infection management for persons with HIV or AIDS,
 - facilitate their access to welfare schemes especially for women and children,
 - formulate HIV or AIDS education communication programmes that are age appropriate, gender sensitive, and non stigmatizing, and
 - lay guidelines for the care and treatment of children with HIV or AIDS.

- Every person in the care and custody of the state shall have right to HIV prevention, testing, treatment and counselling services.
- **Role of the Ombudsman:** An ombudsman shall be appointed by each state government to inquire into complaints related to the violation of the Act and the provision of health care services.
- The Ombudsman shall submit a report to the state government every six months stating the number and nature of complaints received, the actions taken and orders passed.
- **Guardianship:** A person between the **age of 12 to 18 years** who has sufficient maturity in understanding and managing the affairs of his HIV or AIDS affected family shall be competent to act as a guardian of another sibling below 18 years of age.
- The guardianship will be apply in matters relating to admission to educational establishments, operating bank accounts, managing property, care and treatment, amongst others.
- **Court proceedings:** Cases relating to HIV positive persons shall be disposed off by the court on a priority basis.
- In any legal proceeding, if an HIV infected or affected person is a party, the court may pass orders that the proceedings be conducted (a) by suppressing the identity of the person, (b) in camera, and (c) to restrain any person from publishing information that discloses the identity of the applicant.
- When passing any order with regard to a maintenance application filed by an HIV infected or affected person, the court shall take into account the medical expenses incurred by the applicant.

2.4 MOTOR VEHICLES AMENDMENT BILL, 2017

Why in news?

The Motor Vehicles (Amendment) Bill passed by the Lok Sabha will take a little more time to come into force, since it has not cleared the Rajya Sabha in the 2017 Budget session.

What are the significant proposals to the Motor Vehicles (MV) Act of 1988?

- A group of State Transport Ministers went into the reform question last year, while the comprehensive recommendations of the **Sundar Committee on road safety** have been left on the back burner for nearly a decade.
- The Centre assumes a direct role in the reforms, since it will introduce guidelines that **bind State governments** in several areas, notably in creating a framework for taxicab aggregators, financing insurance to treat the injured and to **compensate families** of the dead in hit-and-run cases, **prescribing standards for electronically monitoring highways** and urban roads for enforcement and **modernising driver licensing**.
- **Protection from harassment for good samaritans** who help accident victims is something the amended law provides, and this needs to be in place.

What the researches indicate?

- Research shows that imposing stricter penalties tends to reduce the level of enforcement of road rules.
- As the **IIT Delhi's Road Safety in India report of 2015** points out, the deterrent effect of law depends on the severity and swiftness of penalties, but also the perception that the possibility of being caught for violations is high.
- The amendments to the MV Act set **enhanced penalties for several offences, notably drunken driving, speeding, jumping red lights** and so on, but periodic and ineffective enforcement, which is the norm, makes it less likely that these will be uniformly applied.

What is the way ahead?

- Without an accountable and professional police force, the ghastly record of traffic fatalities, which stood at 1,46,133 in 2015, is unlikely to change.
- On another front, **State governments must prepare for an early roll-out of administrative reforms** prescribed in the amended law, such as **issuing learner's licences online, recording address changes through an online application, and electronic service delivery with set deadlines.**
- Indeed, to eliminate corruption, all applications should be accepted by transport departments online, rather than merely computerising them.

2.5 DISMANTLING HIGHER EDUCATION SYSTEM

What is the issue?

- Recently, the Cabinet Secretary gave directions to the Ministry of Human Resource Development (MHRD) to transfer four schemes related to polytechnics to the Ministry of Skill Development and Entrepreneurship (MSDE) has more serious implications.
- This must be seen in conjunction with the earlier decision to transfer architecture institutions from the MHRD to the Ministry of Urban Development (MUD).
- These happenings could very well be the beginning of the process of dismantling of the higher education system.

What's wrong with the move?

- A university, as the very name suggests, stands for a universe of knowledge wherein all disciplines are seen as **intrinsically linked.**
- Human experience shows that all path-breaking **innovations take place on the fringes of disciplines.**
- By erecting walls around disciplines, we are going further away from the idea of a university as the world sees and respects it.
- Even from the narrow point of **view of world ranking of universities**, this is a bad idea as all the major systems lay enormous stress on research and interdisciplinary studies.
- This could not only **seriously affect the learning-teaching process** in our institutions of higher learning but also lower the stature of the country as a serious player in the knowledge economy.

How the UGC's powers has gone down?

- The Constitution envisions that the coordination and maintenance of standards in institutions of higher education or research and scientific and technical institutions rests with the Government of India.
- To achieve this end, the University Grants Commission (UGC) was created in 1956.
- In order to be able to confer a degree, whether it is in medicine, engineering, management, it is mandatory to be part of the university system, which is regulated under the UGC Act.
- However, over a period of time, several professional education regulators came into being, curiously through government legislation.
- These have encroached upon the apex regulator's space. Today there are **more than 13 de facto "regulators" in the area of higher education**, often issuing contradictory instructions and causing confusion amongst the institutions and students alike.

What is the need for single over-arching body?

- Take the case of architecture. It is not a stand-alone discipline but leans on the knowledge of art, science, technology, social sciences and pedagogy and therefore is best anchored within the education system.
- **The Kothari Commission (1964-66)** stressed that “all higher education should be regarded as an integrated whole, that professional education cannot be completely divorced from general education, and that it is essential to bring together all higher education”.
- The same sentiment was repeated by the **National Education Policy (1986)** which states that “in the interest of greater co-ordination and developing inter-disciplinary research, a national body covering higher education in general will be set up”.
- Later, the National Knowledge Commission and **the Yashpal Committee (2008)** also recommended the creation of a single over-arching body.
- With the above vision in mind, the MHRD worked towards the creation of a **National Commission for Higher Education and Research (NCHER)**, which unfortunately could not fructify as there was stiff resistance from the professional-education regulators.

What is the way forward?

- Till now, the better polytechnics had an opportunity to grow and evolve into engineering colleges for which there was a specific scheme in the MHRD.
- The Government’s decision means that 3,500 polytechnics in the country have cut their umbilical cord with the higher education system.
- Instead of boxing these institutions into narrower spaces we need to provide them with opportunities to grow.
- Another trend that has adversely affected higher education and the idea of a university is the mushrooming of **single subject universities**.
- Ex. Scores of private engineering and dental colleges have become universities through the deemed university or state government route.
- Both the **UGC and AICTE require serious overhauling**.

2.6 PRICE CONTROL OF MEDICAL DEVICES

What is the issue?

It is alarming and worrying when a couple of top **stent makers** decide to withdraw some products from the country – a move, they say, is in response to the Government’s price control efforts.

What prompted this issue?

- A stand-off between the Government and industry is not without precedent - price control on medicines is an example.
- But medical devices have come into the Government’s price net for the first time.
- With data from the National Pharmaceutical Pricing Authority (NPPA) revealing exorbitant distribution margins exercised each time a stent changed hands before it reached the patient at an **inflated price**, the case for a crackdown was made.

- It all started with the National Pharmaceutical Pricing Authority (NPPA) **announcing a price ceiling for stents** in mid-February.
- The government brought stents under **the National List of Essential Medicines** and effected a sharp cut in prices.
- While the price of a bare metal stent was capped at Rs 7,260 (as against a starting market price of Rs 25,000), that of the drug-eluting and the biodegradable ones, which cost up to Rs 2 lakh, was capped at Rs 29,600 apiece.
- The decision, which was in accordance with a Delhi High Court order seeking action, was evidently a popular move. But the companies begged to differ.

What the manufacturing companies say?

- Three multinational stent manufacturing companies have **sought to withdraw their cutting edge stents from the Indian market**, stirring concern about the long-term impact of such an exodus on patient care in India.
- The companies, as well as several hospital administrators, argued that as the government's price control order treated all drug-eluting stents as equivalent, disregarding differences, it should not in principle have any objection to companies withdrawing some stents and maintaining a steady supply of others.

How the Government responded?

Stung by this withdrawal, the government has **invoked an emergency clause** in the Drug Price Control Order (2013) and has asked the manufacturers **to maintain uninterrupted supply** of all types of stents.

What are the implications?

- It was feared that while complying with the government diktat making it mandatory for hospitals to bill stents separately from surgical procedures, **hospitals would simply charge more for other services.**
- In any case, there was no way the government could monitor this.
- But the bigger problem was about the **scarcity of quality stents.**
- When the price cap was announced, some doctors did say that in the absence of quality products, patients needing critical care would have to compromise by using inferior Chinese stents.
- Reports suggest Chinese stents are gaining massively from the gap created by the shortage of stents from the US.

3. SOCIAL JUSTICE

3.1 ATTACK ON AFRICAN PEOPLE

Why in news?

On 27 March, 2017, four Nigerian men were beaten up by locals holding a protest march demanding justice for a 17-year-old who had died two days earlier from a suspected drug overdose.

What does this issue underscore?

- A mere rumour triggering such violence is truly alarming.
- Understandably, this incident has touched an anxious chord about their personal safety among the thousands of African nationals who live, work and study in and around Delhi.

- It has once again thrown a spotlight on a disturbing mob violence trend in the country which specifically targeting persons of African origin.
- While the police have made some initial arrests, such incidents of racial violence **need a stronger response from the administration** and civil society.
- Last year, the murder of a Congolese student in Delhi compelled African Heads of Mission to threaten a boycott of Africa Day.
- In modern diplomacy, **the quality of people-to-people contact** is a factor in determining the overall strength of a bilateral relationship.
- Even as Indian diplomats move to assure African students in Greater Noida about their safety, with External Affairs Minister discussing the matter with U.P. Chief Minister, this issue is not about foreign affairs.
- It is a **reminder of the latent racism** in India, of the terrible prejudices too many of us harbour, and of the need for a political and social effort to overcome it.

3.2 THE TREATMENT OF TERMINALLY ILL PATIENTS BILL

What is the issue?

- Efforts to allow assisted suicide have gained traction around the world in the recent past, with Albania, Colombia and Germany having legalised it in various forms.
- Even in India, the debate over euthanasia and the interests of the state in preserving the life of persons is currently playing out in various fora.
- While the ethical implications of these acts have been debated, there is a need to debate how such a law would be operationalised.
- This will help to ensure the constitutionally guaranteed right to bodily integrity and autonomy, and to minimise misuse of the law.
- In this context, **The Treatment of Terminally Ill Patients Bill, 2016** acts as a great starting point.

What is Euthanasia?

- It is the practice of **intentionally ending a life** in order to relieve pain and suffering.
- **Passive euthanasia** entails the withholding of common treatments, such as antibiotics, necessary for the continuance of life.
- **Active euthanasia** entails the use of lethal substances or forces, such as administering a lethal injection to kill, and it is controversial.

What does the draft bill says?

- According to the draft Bill, 2016, a terminally ill patient above the age of 16 years can decide on whether to continue further treatment or allow nature to take its own course.
- The Bill **provides protection to patients and doctors** from any liability for withholding or withdrawing medical treatment and states that palliative care (pain management) can continue.
- When a patient communicates her or his decision to the medical practitioner, such decision is binding on the medical practitioner.

- However, the draft also notes that the medical practitioner must be “satisfied” that the patient is “competent” and that the decision has been taken on free will.
- There will be a panel of medical experts to decide on case by case basis.
- The draft also lays down the process for seeking euthanasia, right from the composition of the medical team to moving the high court for permission.
- The Bill only augurs to **legalise passive euthanasia**, as discussed in the judgement pertaining to Aruna Shanbaug.
- The Ministry said that **active euthanasia is not being considered** as it is likely to be used by unscrupulous individuals to attain their ulterior motives.

What did the SC say?

- In its judgments in the ArunaShanbaug and GianKaur cases, the Supreme Court has stated that the law currently only permits passive euthanasia.
- The administration of active euthanasia or assisted suicide would **constitute attempts to commit or abet suicide** under the Indian Penal Code, 1860.
- However, in both these judgments, the court stated explicitly that assisted suicide was only illegal in the absence of a law permitting it.
- Therefore, assisted suicide could be legalised if legislation was passed by Parliament to that effect.

What does the new bill say?

- This Bill is a bold and welcome step in many respects, and is a significant improvement over the draft Ministry Bill that it is based on.
- It moves away from decision-making based on the ‘best interests’ of the patient and recognises the right to die with dignity.
- It does not permit active euthanasia.
- Once the practitioner is satisfied that the patient is competent and has taken an informed decision, the decision will be confirmed by a panel of three independent medical practitioners.
- However, there is need to clearly think through some of the provisions in this Bill and the procedures it sets out.

What are some the perceived flaws?

- Like the draft Bill, it defines “terminal illness” as a **persistent and irreversible vegetative condition** under which it is not possible for the patient to lead a “meaningful life”.
- The use of this **subjective phrase** would require second parties to decide whether a person in a permanent vegetative state is living a meaningful life.
- Persons with disabilities, in particular, are likely to be disadvantaged by such an understanding of “terminal illness”.
- It also gives rise to the practical question of how a person in a permanent vegetative state will be able to self-administer the lethal dosage to commit suicide.
- In the case of incompetent patients, or competent patients who have not taken an informed decision about their medical treatment, the Bill lays down a **lengthy and cumbersome process** like asking permission from High Court and getting clearance from MCI, before any action can be taken for the cessation of life.

- Such a procedure is advisable for an act like assisted suicide which might be prone to abuse.
- However, it would be a **violation of patient autonomy** if it were applied to instances of merely withholding or withdrawing medical treatment.
- Decisions on such withdrawal must not tie up the medical practitioner and family of the patient in litigation.
- Further, given that the MCI has been plagued by corruption and incompetence, it is not advisable to place complete reliance on it. Rather, its role should ideally be limited to framing guidelines and providing guidance when requested.

3.3 DECRIMINALISING SUICIDE

Why in news?

Mental healthcare bill 2017 has been passed recently which amended the age old practise of criminalising suicide.

What was the earlier provision?

- Until recently, attempting suicide was a criminal offence.
- People attempting suicide were prosecuted under the draconian Section 309 of the Indian Penal Code, instead of mandating therapy.
- Such punishments acted as a deterrent in treating the actual cause.
- If a person is pushed to an extreme decision, it could only be by mental illness and the section failed to recognise it.
- In 1751, Germany decriminalized suicide attempts.
- Most countries in Europe and North America joined in following the French Revolution in late 18th century.
- The Law Commission of India recommended repealing the section as early as in 1971.

How prevalent are suicides?

- According to the World Health Organisation (WHO), India has one of the largest populations with mental illnesses.
- WHO also estimates that 36% of all Indians suffer from depression and over 135,000 people commit or attempt to commit suicide in India every year.
- The latest National Crime Records Bureau statistics show that 79,773 men and 40,715 women have tried to end their lives.
- Senior citizens also account for 7.7% of suicides in India.
- The thoughts of suicide are also common among those who have terminal illnesses.

How is the new law helpful?

- By passing the Mental Health Bill 2017, the Indian government took a logical stance.
- A person can only be helped if she or he reaches out for help without judgement or fear of the law.
- On these lines, the new law is therefore a better alternative as it takes into account the reality of the psychological issues.

- It recognises suicides as a problem emanating from stress and mental illness and decriminalise attempts.
- Special provisions for women and health are there in the Bill, including not separating women from their children unless absolutely necessary.
- It also bans use of electric shock therapy for treating children with mental illness.
- The Bill also intends to ensure healthcare, treatment and rehabilitation of persons with mental illness “in a manner that does not intrude on their rights and dignity”.
- Thus, the new law is expected to provide a fillip to anti-suicidal initiatives.

3.4 BANNING SALE OF LIQUOR

Why in news?

- Supreme Court in March 2017 confirmed its December order on **banning sale of liquor near National and State highways**.
- It went on to assert that the proscription would cover not just retail outlets but hotels and bars too.

What are the shortcomings?

- The order is intended to **prevent drunk driving**, which is without doubt a contributor to road accidents and fatalities.
- More than a third of the liquor sale and consumption points will be hit.
- The order **does not exempt outlets in cities and towns**, where most of the consumers are local residents.
- The court’s clarification goes against the opinion Attorney-General gave the Kerala govt that the December order applied only to retail outlets and not to bar-attached hotels and parlours.
- **Retail outlets can perhaps move another 500 m** with minimal expense and no great loss of clientele but established hotels and clubs does not enjoy such luxury.
- If drunk driving along the highways is the provocation for the order, there can be no reason to cover clubs that serve only their members.
- State governments will face a huge loss in revenue.
- Smaller administrative units such as **Union Territories will be the worst-hit**.
- Puducherry, which includes enclaves such as Mahe, will find relocation of many shops impossible, as they are caught between the highway and the sea.
- Goa, a small State that depends heavily on tourism, is in a similarly difficult situation.
- The relaxation of the liquor-free zone from 500 m to 220 m from the highways in the case of areas with a population of 20,000 or less might only partly address their concerns.
- Prohibition as a policy has had a history of failure. Good intentions do not guarantee good outcomes.

Is this a matter for the Supreme Court to decide?

- **It is an administrative matter** where the decision rests with state governments. It is not just about the appropriate authority for such decisions.
- The problem with Supreme Court decisions is their binding nature, much like law, which cannot be changed unless the concerned bench reviews its decision or a constitutional bench sits and decides.
- The Constitution of India sets out a **separation of powers** between institutions of the state — executive, legislature and judiciary, to ensure the checks and balances so essential in a political democracy.
- Of the three, if any one institution of the state attempts to perform a function that essentially belongs to another institution of the state, under the Constitution, this can be described as overreach.

What can be an effective solution?

- The only effective and sustainable solution to the dangers posed by drunk-driving is **strict enforcement and punishment** that becomes a deterrent.
- For this purpose, the law can be strengthened further.
- In fact, the Union cabinet has recently approved amendments to **the Motor Vehicles Act**, which raise the fine for drunken driving to Rs 10000, and if such driving results in death, it would be treated as culpable **homicide under Section 299 of the IPC**, punishable with imprisonment of up to 10 years.
- Even stronger penal action is necessary. The fines can be escalated and driving licences can be suspended for longer durations, particularly in repeat offences.

3.5 ICT AND DISABILITY

What is the issue?

- Information and Communication Technologies (ICT) have the potential to significantly impact the lives of 8-10% of India's population lives with disabilities.
- It will facilitate access of services available to them and allowing them to handle a wide range of activities independently, enhancing their social, cultural, political and economic participation.
- So ICT must be made accessible to everyone.

What India has done till now?

- **Accessible India Campaign** - It aims at achieving universal accessibility for all citizens and creating an enabling and barrier-free environment.
- **CRPD** - India was one of the first countries to ratify the United Nations Convention on the Rights of Persons with Disabilities.
- **Disabilities Bill** - The recently passed Rights of Persons with Disabilities Act, 2016 mandates adherence to standards of accessibility, transportation, information and communications, including appropriate technologies and systems, and other facilities and services provided to the public in urban and rural areas.
- The Act also mandates **incorporation of Universal Design principles** while designing new infrastructure, electronic and digital media, consumer goods and services.
- It also sets **timelines** to ensure implementation of the above and punitive action in the event of non-compliance.

How important is Accessibility?

- Accessibility would help achieve the combined goal of creating an inclusive society that will allow for a better quality of life for all citizens, including persons with disabilities.
- Poor accessibility has **led to social exclusion** of people with disabilities, aggravating the negative impact of the existing digital divide.
- Beyond the social implications, accessibility makes for **business and economic sense** too. Exclusion of persons with disabilities has huge economic implications. UN agencies put this cost at around 7% of national GDP.
- Accessible services and business premises can broaden **the customer base**.
- Recent research pegged the market size of different products needed by persons with disabilities in India at a whopping Rs. 4,500 crore.

What India should do?

- The need is for representation of persons with disabilities in all ministries and key missions, commissions and committees to advise and ensure inclusion in all policies and programmes.
- The government's procurement policy must mandate accessibility as a key criterion.
- Adherence to the **Web Content Accessibility Guidelines** should be made mandatory while developing websites and mobile applications.
- The Smart Cities Mission leads to the convergence of other ongoing government programmes like Make In India, Digital India, AMRUT, etc., but the Accessible India Campaign does not even find a mention.
- This happened even as many as 39 cities out of the 50 cities of the Accessible India Campaign are also among the shortlisted Smart Cities.
- So, the synergy between various arms of the government is very important.

3.6 MAKING GENERIC DRUGS COMPULSORY

Why in news?

PM had recently said that the government is contemplating a law that will make it **binding for doctors to prescribe generic medicines**.

What is the proposed move?

- The proposed legislation has the potential of offering the patient a greater say in the choice of a medicine.
- Making it obligatory on the doctor to prescribe a generic drug would mean that the prescription will detail the medicine's composition.
- It would leave the choice of the brand on the patient.

What should be done?

- For this to be effective, the proposed law needs to **go beyond the doctor-patient binary** and target each link in the pharma industry's chain of corruption.
- E.g. there are more than 500 generic versions for the anti-bronchial pneumonia formula, amoxycillin and potassium clavulanate, that cost between Rs 70 to Rs 300 for a packet of 10 tablets.

- A patient with a prescription detailing the composition of the medicine could still be dependent on a pharmacist to make the most suitable drug choice.
- Also a pharmacist is less likely to be sensitive to a patient's medical and financial condition than the doctor.
- Therefore the **pharmacists should also be brought under its ambit.**
- The generic medicine industry should also be revamped. Last year, 27 commonly-used medicines in the country failed quality tests.
- Currently in most cases, failure to comply with standards results only in a short-term suspension of a manufacturer's production licence. Effective deterrents should be formulated.
- Adequate regulations, **ample drug inspectors** and lab facilities to check drug quality should be provided to ensure quality.
- The move needs to be backed by adequate regulatory and legal provisions.

3.7 TELANGANA MUSLIM RESERVATION

Why in news?

- The Telangana assembly passed a law increasing the reservation for OBC Muslims in jobs and education from **4% to 12%**.
- It asked the Centre to include the 62% reservation in the state in the **Constitution's Ninth Schedule** — on the pattern of Tamil Nadu, which has 69% reservation.

Why is the demand being made?

- **90% of Telangana's population is SC/ST and OBC** and so the 50% limit is irrational in the state's case.
- The Hyderabad High Court had twice struck down reservation for Muslims earlier.
- So the state government is keen to get its new reservation law inserted in Schedule Nine.
- The **50% cap on reservation is a judicial innovation** and is not mentioned in the Constitution.
- As of now the IX schedule does not provide complete immunity from judicial review.

Is the demand justified?

- The latest legislation cannot be called reservation for Muslims as the benefits will not include all Muslims in the state.
- They will only be for some Muslim castes such as butchers, carpenters, gardeners and barbers.
- Similar occupational castes among the Hindus enjoy the benefits of reservation.
- The legislation passed by the Telangana assembly will thus benefit certain classes identified on the basis of social and educational backwardness.
- This will not be against Article 15(1) of the Constitution which prohibits discrimination "only on the basis of religion".

4. GOVERNANCE

4.1 CORPORATE GOVERNANCE

What is the issue?

- Even though in reality, in many 'promoter-run' companies, the original promoter's stake may have been reduced to a minority, no one questions the authority or decisions of the founder/family heir.
- Regardless of whether they have de jure control or not, their authority is pretty much unlimited.
- They continue to **hire and fire as they please**, appoint kith and kin to powerful positions, do deals with related parties where the gains flow to the promoter family and not the public shareholders and **appoint compliant boards**, despite the mandated presence of independent directors.

What is happening lately?

- Mr. Ratan Tata talked about independent directors, and the need to protect the interests of other shareholders and not just the chairman.
- Mr. Narayan Murthy rightly argues whether exorbitant remunerations for CEOs can really be justified in a poor country like India.
- Both valid points need discussion, which isn't happening. This is because of the manner in which these have been raised.
- Both Mr. Tata's charges against Mr. Mistry (and the latter's response to them) as well as Mr. Murthy's concerns are being seen as **spiteful attacks in a very personal feud**.
- Because of this, it is **investors in Infosys stock who have paid the price**, having thousands of crores wiped off from the value of their holdings.
- Ditto at the Tata Group, which has shed thousands of crores in market capitalisation after the surprise sacking of Mr. Mistry.
- The many issues raised by Mr. Tata, as well as the detailed concerns pointed out by Mr. Mistry, deserve greater attention, but were not given their due because of the personal resentment which overlay all these actions.

4.2 ETHICS BEHIND STING OPERATIONS

What is the issue?

A Kerala minister's exit after a sting operation spurs a debate on privacy v/s public interest.

What is the operation about?

- A Malayalam television channel had broadcasted an audio recording allegedly of the then Transport Minister of Kerala purportedly seeking sexual favours from a woman who had come to him for assistance.
- The women side of the conversation was not put out.
- Later it was found that the woman journalist with the channel had conducted the sting, suggesting this was in reality a kind of honey trap.
- The CEO of the channel went on air to render an apology, presumably for misrepresenting matters.

- The CEO and eight other employees from the channel have been booked under sections of the Information Technology Act and the Indian Penal Code.

What is the ethics behind sting operation?

- The ethics of sting operations is among the most fiercely debated issues in journalism.
- Some generally agreed guidelines are -
- Any such operation that uses false pretences, with its necessary violation of the interviewee's trust and privacy, must serve a larger public interest that far outweighs such violation.
- It also must be used as a last resort, when there is no other means of acquiring the information sought.
- It must be the outcome of considerable editorial deliberation.
- They should never be intended to entrap or induce people into committing wrongdoing or embarrassing them badly.
- It is imperative that publications and broadcasters explain vital public interest for conducting them.
- A sting cannot be an excuse to grab eyeballs with immodest and essentially private content, or a shortcut to make a point merely by shocking the reader or viewer.
- Doing so risks eroding that goodwill and leaving journalists facing harsh charges.

5. INDIA AND ITS NEIGHBOURHOOD

5.1 INDIA PAKISTAN – WEST ASIA FACTOR

What is the issue?

The continuing engagement of India with Saudi and Iran had let Pakistan worried about India's new strategic relationships.

Why is Pakistan worried?

- Saudi Arabia's had sought the appointment of Pakistan's ex-army chief as supreme commander to the Islamic Military Alliance to Fight Terrorism (IMAFT).
- Saudi Arabia made the announcement before consulting Pakistan.
- This arbitrary decision by Saudi is due to Pakistan's refusal to join Saudi led Yemen war last year.
- In 2015-16, 50% of remittances to Pakistan came from Saudi Arabia and the United Arab Emirates (UAE).
- This has been declined by 14% on the back drop of Pakistan's refusal to join the war.
- King of Saudi is also planning to visit India in 2017.
- United States under Trump is expected to become less friendly to Pakistan.
- This has forced Pakistan towards a resumption of relations with Russia via China.

How is India increasing its West Asia relationships?

- Iran exports 16.5% of India's crude oil, at times, free of transport cost, and built Chabahar port with Indian help.

- The UAE is a preferred partner for the \$75 billion infrastructure investment announced by India in 2016.
- India is also planning to increase its crude imports from the UAE by 15%.
- Indians outnumber Pakistanis working in Saudi Arabia by around 40%.
- These non-resident Indians remitted over \$36 billion in 2015 (52 per cent of the total remittances to India).
- Indian Strategic Petroleum Reserve Limited (ISPRL) has an agreement with Abu Dhabi National Oil Company (ADNOC) for topping up one of the two caverns at the Mangalore Strategic Petroleum Reserve (SPR) facility.

5.2 DALAI LAMA'S VISIT TO TAWANG

Why in news?

His Holiness the Dalai Lama recently visited Tawang in Arunachal Pradesh.

Who is Dalai Lama?

- The Dalai is the head monk of the Gelug school of Tibetan Buddhism.
- He is considered to be the successor in a line of tulkus who are believed to be incarnations of Avalokitesvara, the Bodhisattva of Compassion.
- Until the 1950s, the Dalai Lamas headed the Tibetan government.
- As per the tradition, indications about the next Dalai Lama would be left behind by the present one.
- Panchen Lama, second only to The Dalai Lama is traditionally recognized by the Dalai Lama and the Panchen Lama is part of the process by which each new Dalai Lama is chosen.

Why did he visit Tawang?

- The Dalai Lama's visit was purely religious and spiritual.
- He has himself clarified that the visit was a routine one like the ones he had undertaken to that state on six earlier occasions.
- He restricts himself to preaching and sermons and occasionally participates in other events.
- He hardly raises political issues, much less the happenings in Tibet or China.

Why did India allow the visit?

- Allowing him to visit any other part of India but not Arunachal Pradesh will amount to acknowledging that the state constitutes a disputed territory.
- It is in line with the Indian government's consistent position to respect him as a religious leader but that he is not permitted to engage in anti-China political activities.

What is different this time?

- This time, Indian government has chosen to depart from its position by openly associating Minister of State for Home with the visit thus giving it a political colour.
- The statement by Arunachal Pradesh Chief Minister that the state shares a boundary with Tibet and not with China runs counter to India's position of acknowledging that Tibet is a part of China.

What was the reaction?

- Every time he has visited Arunachal Pradesh, the Chinese media has reacted.
- Visits of former President PratibhaPatil and that of Prime Minister Manmohan Singh also attracted criticism from the Chinese side.
- But this time the Chinese reaction was more aggressive.

Why China reacted strongly?

- **Next Dalai Lama tussle** - The Chinese have already installed their own Panchen Lama.
- The 14th Dalai Lama has so far not given any clear indication about the next one.
- But the Chinese suspect that the Holiness might choose someone from India, or even from Arunachal Pradesh, as his successor.
- Such a step will leave the movement for Tibetan independence with another leader.
- **Territorial Claims** - During the 1962 war, Chinese troops had annexed half of what used to be called NEFA.
- But then the Chinese side announced unilateral ceasefire and withdrew to the pre-1962 positions in the eastern sector.
- Thus, instead of annexing Assam, the Chinese troops vacated all of western Arunachal Pradesh, including Tawang.
- Arunachal Pradesh became disputed only after the formal joining of Sikkim in the Indian Union in 1975.
- **Change in stance** - In 2009 China and India had drifted close to war over the Dalai Lama's proposed visit to open a hospital in Tawang town.
- Conflict was averted when the then Prime Minister acceded to a request to keep the international media out of Tawang and prevent it from giving the visit international significance.
- Probably the Chinese feel that India is changing its stance under the new administration and hence the serious warning.

What should be done?

- In spite of the recent issues, India needs to tread carefully on the Tibet issue.
- This issue has particular sensitivity for China and which had been the factor that precipitated the 1962 India-China war.
- There have been occasions in the past when the heightened tensions between the neighbours have been resolved through regular engagement.
- This should be continued to advance in areas of convergence and to play their respective roles as stable anchors of an emerging international order.

5.3 THE RIGHT TO CONSULAR ACCESS: KULBHUSHAN JADHAV ISSUE

What is the issue?

- KulbhushanJadhav, an Indian national and a retired Indian Navy officer was convicted of conducting '**subversive activities**' for the Indian government in Pakistan and has been sentenced to death by a Pakistani military court on April 10, 2017.

- Pakistani authorities had reportedly arrested Jadhav in what they termed as a counter intelligence operation in Balochistan on 3 March, 2016. He has remained in Pakistan's custody ever since.

Background:

- While the Pakistani side has repeatedly alleged that Jadhav is a **Research and Analysis Wing "spy"** in Pakistan's restive Balochistan province, India had categorically denied Islamabad's charges.
- Though India has conceded right from the start that Jadhav was indeed an Indian national and a retired naval officer, the Indian side claims that Jadhav ran a **legitimate business from Iran**, and might have inadvertently crossed over to Pakistan.
- Another curious aspect of the case has been an alleged confessional video by Jadhav, widely circulated in the Pakistani media, wherein he had confessed to his sabotage activities and detailed his networks with Indian spy agency RAW.
- However, India has rejected the validity of the video and claimed that it was tutored or recorded under immense mental and physical pressure.
- Pakistan Army chief had said, "His goal was to disrupt development of the CPEC, with Gwadar port as a special target."
- The Indian government has, although categorically denied these allegations, it has said it was not in a position to clarify the circumstances in which Jadhav reached Pakistan as despite repeated attempts **Pakistan had denied India consular access**.
- India had also requested for Jadhav's extradition but in March 2017, Pakistan told it won't extradite Jadhav.

How International Law Can Help India?

- At present, the government appears committed to pursuing the matter bilaterally through diplomatic representations and negotiations.
- Given the current ebb in relations, however, such bilateral efforts may be ill-conceived and ineffectual in securing access to Jadhav.
- Mindful of this, India would be well-served in promptly initiating legal proceedings against Pakistan before the **International Court of Justice (ICJ) for the violation of international law providing for consular access**.
- **The right to consular access:** Encompassing the right of sending-state consuls to visit, converse with and arrange legal representation for nationals of the home-state in custody of the receiving-state, is provided for under **article 36(1)(c) of the Vienna Convention on Consular Relations, 1963 (VCCR)**, to which both India and Pakistan are parties.
- Under the VCCR, the receiving state (Pakistan in this case) is obligated to facilitate this protection work by:
 - promptly informing the competent consulate when one of their nationals is arrested or detained;
 - inform the detained foreign national of his right to consular access with his home state; and
 - facilitate the protection work performed by the competent consuls in the form of visits, communications and legal arrangements made for the detainee.
- Pakistan's conduct in Jadhav's case, wherein it failed to inform Indian authorities of his detention and refused to provide consular access to Indian authorities despite multiple requests, is in **contravention to the obligations** it has undertaken under the VCCR and international law.

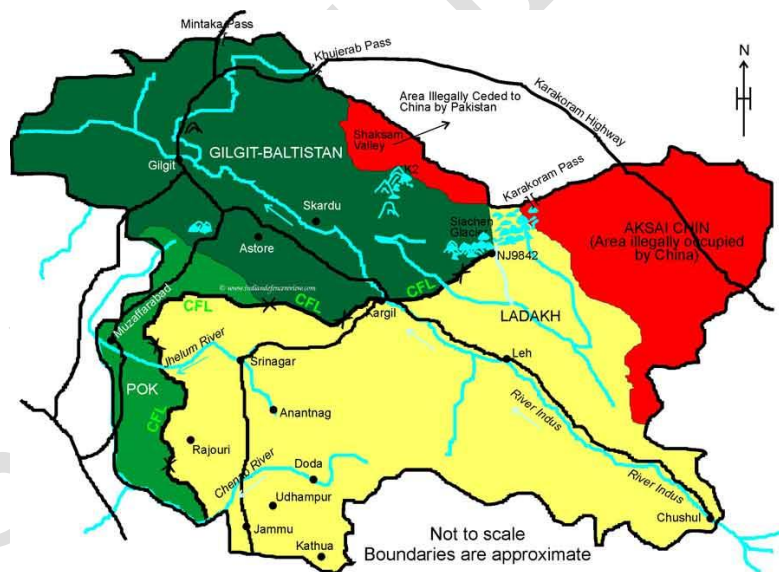
- Pakistan's breach of international law and Jadhav's death sentence may be effectively challenged by recourse to the ICJ.
- Such recourse, is almost providentially open in Jadhav's case by virtue of both **India and Pakistan being parties to the Optional Protocol to the Vienna Convention on Consular Relations** concerning the Compulsory Settlement of Disputes, 1963.
- The Optional Protocol, to which India and Pakistan acceded, provides that disputes arising out of the interpretation or application of the VCCR shall lie within the compulsory jurisdiction of the ICJ, and may accordingly be brought before the court by any party to a dispute.
- An Indian recourse to the ICJ may produce a result like, the ICJ ordering the Pakistan to review and reconsider Jadhav's trial, in which he may be afforded adequate legal representation arranged by the Indian government.
- This would satisfactorily protect India's and Jadhav's interests in the present dispute.

5.4 MAKING GILGIT-BALTISTAN THE FIFTH PROVINCE

Why in news?

Pakistani government was considering making Gilgit-Baltistan (GB) the fifth province of Pakistan.

What is the importance of GB?



- **GB is one of the two parts of Pakistan Occupied Kashmir (PoK).**
- The other one is “**Azad Jammu and Kashmir**” (AJK) and both formed part of the erstwhile princely state of Jammu and Kashmir (J&K).
- The territory was handed over to the newly created state of Pakistan in November 1947 by the action of a British officer of the Gilgit Scouts.
- Despite being in the service of the Maharaja of Kashmir, he revolted and joined Pakistan.
- GB has an area of 72,000 sq. km and comprises about 85% of the total area of PoK.

- **It is a strategic location** i.e. provides land access to China, contains vast reservoirs of fresh water and the China-Pakistan Economic Corridor (CPEC) passes through it.
- Despite this, GB does not form part of the territory of Pakistan.

What is the current move?

- The administrative units of Pakistan consist of four provinces, one federal capital territory, and two autonomous and disputed territories.
- The four provinces of Pakistan are Khyber Pakhtunkhwa Province (**KPK**), Punjab, Sindh and Balochistan.
- The tribal belt adjoining KPK is managed by the Federal Government and is named FATA i.e., Federally Administered Tribal Areas.
- Currently Pakistani government is planning to make Gilgit-Baltistan (GB) the fifth province of Pakistan.

What is its significance?

- There are many impediments in the way of making GB the fifth province of Pakistan.
- Previously, when every time such a proposal was made, the conclusion has been that GB is part of J&K and **any such move would seriously damage Pakistan's Kashmir case.**
- Two UN resolutions of 1948 and 1949 clearly established a link between GB and the Kashmir issue. It mentioned that "pending a final solution, territory evacuated by the Pakistan troops will be administered by the 'local authorities'.
- Making GB its fifth province would thus **violate these UN resolutions** that would damage its position on the Kashmir issue.
- That would also be **violative of the 1963 Pak-China Boundary Agreement** that calls for the sovereign authority to reopen negotiations with China after the settlement of the Kashmir dispute between Pakistan and India.
- It is also **violative of the 1972 Shimla Agreement** that mentions that "neither side shall unilaterally alter the situation".
- Pakistan would also have to overcome the adverse reaction of Kashmiris on both sides of the LoC.

What is the reason behind the Pakistan raising the issue?

- With a \$50 billion investment in the CPEC, China would hardly does not want the CPEC route on a disputed territory.
- Pakistan has raised the controversy to tell the Chinese how difficult it is to make GB its fifth province and how this would compromise its long-standing position on the Kashmir issue.
- Thus the issue has been raised to appease China and distract India.

5.5 BELT & ROAD SUMMIT

Why in news?

China is about to host Belt and Road summit in Beijing in May 2017.

What is the Belt & Road Summit?

- The Belt and Road Summit is China's first international conference of all the 60-plus countries that have signed up to be a part of the infrastructure corridor also known as the New Silk Route and the One Belt One Road (OBOR) project.
- It was first proposed by Chinese President Xi Jinping in 2013 and China has already allocated a \$40-billion fund.
- The route is made up of railway lines, roads, highways, maritime channels and energy projects.
- It that will connect China to places as far as the U.K., essentially for trade in goods and fuel supplies.

Who is attending?

- At least 28 heads of state and government will attend the forum in Beijing, including Russian President, Pakistani PM, Myanmar's Aung San SuuKy, Kazakh President and leaders of Indonesia, Malaysia and the Philippines.
- The Spanish, Greek, Hungarian, Serb and Polish PMs and the Swiss and Czech Presidents will also attend.
- Italy will be the only member of the G-7 to attend at a head of state level.
- In addition, UN Secretary-General, World Bank President and OMF Managing Director are also expected.

Why is India refusing to attend?

- **India has been wary of China's intentions with the project.**
- Those worries were further enforced with the announcement of \$46 billion China-Pakistan Economic Corridor (CPEC).
- It will connect to Xinjiang through parts of Pakistan-occupied Kashmir (PoK).
- India cannot be a part of the summit which will include Indian Territory as a part of Pakistan.
- India will not attend the summit at a senior level or discuss joining the B&R Initiative until China clarifies its stand on PoK.

Will India join the B&RI later?

- All of India's neighbours, except Bhutan are a part of it.
- India too is keen to increase connectivity with them.
- Many of the projects envisaged under the BCIM (Bangladesh-China-India-Myanmar) corridor and the "Asian Highway project" would merge into B&RI plans.
- But tense bilateral ties with China, and India's growing concerns over Chinese intentions in South Asia and the 'Indo-Pacific' region make it practically unlikely that India will consider joining it in the near future.

5.6 BHUTAN EXITS BBIN

Why in news?

Bhutan recently announced that it is unable to proceed with the **Motor Vehicles Agreement** with Bangladesh, India and Nepal.

What is BBIN?

- It is the regional sub-grouping India had planned for **ease of access among the four countries**.
- It was an alternative proposed by the government after Pakistan rejected the Motor Vehicle Agreement (MVA) at the SAARC summit in Kathmandu in 2014.
- It seeks to allow trucks and other commercial vehicles to ply on one another's highways to facilitate trade.
- Of the other SAARC members, Sri Lanka and the Maldives are not connected by land, and Afghanistan could only be connected if Pakistan was on board.

What are the consequences?

- After Bhutan's decision, India, Nepal and Bangladesh will have to decide whether to wait for Bhutan to reconsider or to press ahead with a truncated 'BIN' arrangement.
- Reconsidering will not be easy as the main concern expressed by Bhutanese citizen groups and politicians is over **increased vehicular and air pollution**.
- The upper house of parliament has refused to ratify the MVA that was originally signed by all four BBIN countries in 2015.

What should be done?

- It should be seen as a road block, and not a dead end.
- Despite the setback, New Delhi must persevere with its efforts.
- Dry runs have been conducted along the routes, and officials estimate the road links could end up circumventing circuitous shipping routes by up to 1,000 km.
- Bhutan's concerns may be eased if India considers the **inclusion of waterways and riverine channels** as a less environmentally damaging substitute.
- A similar initiative for the Asian Highway project under the BCIM (Bangladesh-China-India-Myanmar) corridor got a boost this week as the countries moved to upgrade the dialogue to the governmental level.
- Connectivity is the new global currency for growth and prosperity and India must continue to make the most of its geographic advantages.

6. BILATERAL AND INTERNATIONAL RELATIONS

6.1 INDIA US TRADE REVIEW

Why in news?

India is among the 16 target countries in a review of trade ties that President Donald Trump was scheduled to order.

What is the present scenario of India-US trade?

- India is the **ninth biggest trading partner** of the U.S. and had a trade surplus of around \$26 billion with the U.S in goods trade alone last year.
- Of its top 20 trading partners, the U.S. has a surplus with only five. With China, the U.S. had a deficit of \$347 billion in 2016.

- Mr. Trump has named China, Mexico and Japan repeatedly for allegedly unfair trade practices.
- He has never named India, but the 100% duty that India imposes on high-power motorcycles was mentioned in his first speech the U.S. Congress recently.

What the President's order says?

- A “country-by-country, product-by-product” report will be prepared in 90 days that would form the basis of further measures that the Trump administration would take to reduce the country's trade deficit.
- The report will identify every form of trade abuse and every non-reciprocal practice that now contributes to the U.S. trade deficit.
- The review will be to assess whether deficit is being caused by cheating, specific trade agreements, lax enforcement or World Trade Organization rules.
- The trade review will touch upon a litany of American concerns about trade with India — inadequate protection of intellectual property, state subsidies and tariff and non-tariff barriers.

What are the highlights of National Trade Estimate Report?

- The U.S Trade Representative recently released its annual National Trade Estimate Report on Foreign Trade Barriers that highlights foreign barriers to U.S. exports.
- The report lists a range of trade restrictions by India such as an existing ban on animal-tested cosmetics and restrictions on dairy products and alcohol.
- It also accuses India of being opaque in its non-tariff regulations, and lists export subsidy programmes in several sectors as a matter of concern.
- India and the U.S. must trade more in energy, generic pharma and defence if the intention is to bring down trade deficit.

6.2 U.S.' EXECUTIVE ORDER AND ITS IMPLICATIONS

What is the issue?

In March 2017, U.S. President signed an executive order which promotes U.S. energy independence and economic growth, but with potential collateral damage to global efforts to limit climate change.

What is the EO about?

- The aim is to give a boost to coal, oil and gas production.
- The centrepiece is a **review of the U.S. Clean Power Plan**.
- The plan aims at reducing greenhouse gas emissions from the American electricity sector.
- This was a key element in the previous U.S. administration's plans to meet America's climate pledge under the **Paris Agreement**.
- Revising it might loosen regulations which ultimately might result in increased emissions.
- The order lifts a moratorium on leasing federal land for coal mining, and revisit rules to limit methane emissions.
- It also withdraws estimates of the “social cost of carbon”, an economic approach that sets a dollar value to the gains from reducing carbon.

What are its implications?

- The deeper significance rests in the political signal it sends to the rest of the world.
- The Paris Agreement is a confidence game. Each country is required to submit a national pledge to limit emissions growth.
- This would be reviewed internationally, and updated and enhanced every five years.
- US President's order punctures global confidence.
- Now, other countries may follow the U.S. lead and dilute their national actions.
- This is not the first time the U.S. has pulled the rug out from under the global community.
- In the mid-1990s, it notably walked away from the Kyoto Protocol, which requires developed countries to take the lead.

What are the implications for India?

- India should not follow the same footsteps and neglect the Paris Agreement.
- India's interests are best served by strengthening the Paris Agreement.
- This could be used to hold to account the developed world.
- India has little to gain from going slow on implementing its own pledge because it is extremely vulnerable to climate impacts.

What India should do?

- As a large emerging country, India has enormous leverage as a deciding factor in the future of the Paris Agreement.
- It should **insist that Western countries maintain their obligations**, including financial.
- Indeed, the new US' order provides an opening to enhance India's global standing.
- Such a climate position could even be useful in a larger foreign policy sense, serving as a soothing element in relationship with China.
- This order is likely to hurt the interests of the U.S. in the long run because it postpones an inevitable but complex readjustment of energy systems around renewable energy.
- It undermines confidence in the U.S. as a reliable global partner, and even revokes preparation for climate impacts meant to safeguard American citizens.
- In this scenario, India should reaffirm its Paris pledge and placing its weight behind implementing the Paris Agreement.

6.3 CO-OPERATION OF INDIA AND AUSTRALIA

What are the focus areas?

- India and Australia focus on three areas of our relationship that show great potential: **economic, knowledge and strategic partnerships.**

- India's economic take-off is lifting millions out of poverty, transforming the country into the world's fastest-growing major economy, with **forecasted growth of 7.5% in 2017**.
- This is a stunning result for India, and a rare opportunity for Australia.
- Two-way trade is growing, and approaching \$20 billion, but that's far too low and there's so much more we can do.
- The Government will announce the results of the tenth round of the **Australia-India Strategic Research Fund**.
- **Worth more than \$100 million**, this initiative has enabled our sharpest minds to collaborate in areas such as food security and health, and advance the boundaries of human knowledge in quantum computing, nanotechnology and astronomy.

Connecting via education:

- For decades students have been criss-crossing the Indian Ocean in search of knowledge.
- Last year, Australia was the second-most popular study destination for Indian students — 60,000 came to Australia to learn.
- Through the Government's New Colombo Plan, more and more young Australians choosing India as a place to study and boost their own qualifications and experience.
- Consider the numbers — **the Indian Government is aiming to train 400 million people by 2022**.
- A great strength of our education relationship is found in the higher education and research sector.
- Collaboration between our institutes on high-end research, innovation, science and technology are central to developing our knowledge partnership.

Shared strategic priorities:

- Close economic cooperation is also matched by shared strategic priorities.
- The security and stability of the Indo-Pacific is fundamental to both of us and my visit provides an opportunity to discuss key regional and geostrategic issues and strengthen our engagement.

The Indian link:

- India — its culture, its art, its food, its people — has become such a large and important part of Australian life.
- Half a million Australians are of Indian descent.
- That number increases each year. Whether it's Little India in Melbourne, Diwali celebrations in Brisbane, or the long-established Sikh community on the North Coast of New South Wales, modern Australia, the most successful multicultural society in the world, could not be imagined without the contribution of Indian-Australians.

6.4 GLOBAL SECURITY CONCERNS IN INDO-PACIFIC

What is the issue?

Global security concerns and interests are now getting focused on Indo-Pacific part of the world more than on any other.

What are the factors that have led to the shift?

- The confrontation between the NATO alliance and the Warsaw Pact nations came to an end with the collapse of the former Soviet Union by 1990,.
- The economic rise of Japan and then of China further altered the equations eastwards.
- The increasing dependence of both on energy resources from the Gulf added to the new scenario.
- Several nation-state tensions, some leading to conflict, were endemic to the region.
- These were coupled by the activities of non-state actors through piracy and then through terrorism.

What are the global interests in the region?

- America has serious military assets in the Western Pacific with bases in Japan, South Korea, Australia and Singapore.
- China is interested in the East and South China Seas and becoming more proactive in IOR stance and naval deployments.
- Japan also has naval facilities and with its dependence on Gulf energy, must be reckoned as an important Indo-Pacific player.
- “Two-ocean” nations such as Australia, or those who are at the three vital chokepoints that connect the “Indo” part with the Pacific — Indonesia, Singapore and Malaysia are also interested in the region
- The fact that one of the vital shipping routes of the world runs across the stretch only adds to global concerns.

How India responds?

- 40% of our GDP comes from trade, of which 90% moves across the Indo-Pacific sea routes.
- India’s responses to the developing situation need to be analysed at two levels.
- American interests and its presence in the region are positive to India’s concerns.
- The US sees India as a major IOR littoral power which can and should act as a “net security provider”,
- India has an interest in seeing that the waters permit safe and free movement of commerce in keeping with international laws.
- **But the navy’s share in the defence budget is lowest in several decades at 1.63 per cent of GDP.**
- **It is not good enough** to ensure that our maritime capabilities will be able to cope with the increasing volatility.
- India must also strive to help the smaller island nations in exploring their waters for oil and gas, as it is doing in Vietnam, and later in deep sea mining for minerals.

6.5 FACING JIHADISM IN RUSSIA

Why in news?

A Deadly attack on St. Petersburg metro was carried out by a suicide bomber from the central Asian Republic of Kyrgyzstan.

How Russia presently deals with the jihadists?

- Russia has been reaching out to enemies of the Islamic State, in an effort to isolate the jihadist formation.
- It also backed the Taliban's calls for the withdrawal of western troops from the country while giving covert assistance to jihadists fighting the Islamic State.
- Russia justifies these actions in the name of self-defence.
- It sees the rise of the Islamic State in West Asia as a part of western strategy to seed chaos in Russia's near-neighbourhood.

How valid are its fears?

- It is true that the destruction of nation-states by ill-conceived Western policies created an enabling environment for the Islamic State to flourish.
- But there is nothing to show the IS is the product of any planned conspiracy.
- Moscow's paranoia is a part of a well-established great-power pattern.
- e.g Great Britain's expansion into Tibet, Afghanistan and Central Asia was founded on the belief that Russia was headed for the Indian Ocean. But it was pure fantasy, as Russia had no such plans.

Will the current strategy work?

- Russia's problems with jihadism long predate the rise of the Islamic State.
- Islamist terrorism in Chechnya, as well as the Central Asian Republics, has persisted because it remains as the only surviving medium of dissent against the authoritarian regimes that Moscow backs.
- It will not be addressed by opportunistic deal-making with rival jihadists.
- The use of force by Russia's counter-insurgency shows that it can do only to a limited extent in solving these problems.
- Through its outreach to jihadist rivals of the Islamist State, Moscow risks perpetuating the problem it faces, not solving it.

6.6 NUCLEAR DISARMAMENT

Why in news?

The United States, Britain and France are among almost 40 countries boycotting talks on a nuclear weapons ban treaty at the United Nations.

What the participants say?

- Leaders of the effort to ban the nuclear weapons include Austria, Ireland, Mexico, Brazil, South Africa and Sweden, supported by hundreds of NGOs.

- They say the threat of nuclear disaster is growing thanks to tensions fanned by North Korea's nuclear weapons programme and an unpredictable new administration in Washington.

Whether the meet was successful?

- With none of the participants - more than 100 countries - at the recent talks belonging to the group of states that possess nuclear weapons, the discussions were doomed to failure.
- According to US, the countries skipping the talks "would love to have a ban on nuclear weapons, but in this day and time we can't honestly say we can protect our people by allowing bad actors to have them and those of us that are good trying to keep peace and safety not to have them."
- The ambassadors of Russia and China were notably absent, but both major nuclear powers are also sitting out the talks.

Whether any UN General Assembly resolution was passed?

- The UN General Assembly in December adopted a resolution - 113 in favour to 35 against, with 13 abstentions - that decided to "negotiate a **legally binding instrument** to prohibit nuclear weapons, leading towards their total elimination" and encouraged all member states to participate.
- But Britain, France, Israel, Russia and the US all voted no, while China, India and Pakistan abstained.
- Even **Japan - the only country to have suffered atomic attacks, in 1945 - voted against the talks**, saying a lack of consensus over the negotiations could undermine progress on effective nuclear disarmament.

6.7 CONFRONTATION OVER GIBRALTAR

What is the issue?

Spain and the United Kingdom headed towards a confrontation over Gibraltar.

Where is Gibraltar?

- The Rock of Gibraltar is at the entry to the Mediterranean with a population of 30,000 people.
- It is one of the last remnants of the British Empire.
- The point is that Gibraltar's very existence depends upon Spanish co-operation.
- It is kept running by 10,000 Spanish workers who cross the border daily.
- It speaks an odd English-Spanish hybrid called "**Yanito**".
- Gibraltar itself is so tiny that many of its residents have to live outside its borders — and most of their supermarkets are outside, too.

What is the importance of Gibraltar?

- Whoever controls it can also exercise pretty thorough control of shipping going into and out of the Mediterranean from the Atlantic.
- That is why, for many years, the British valued it as a major naval outpost. But the Royal Navy now has only a small presence, and a massive NATO base.

How did it become British?

- The seizure of Gibraltar by a joint **Dutch-British force in 1704** came as Britain took over from Spain as Europe's strongest imperial nation.
- Possession was sealed in the Treaty of Utrecht in 1713.
- Gibraltar had only belonged to Spain 250 years before that, so it has spent more time under the British flag than the Spanish one.
- Previously, it was in the hands of Islamic kingdoms for seven centuries.

Claim of Spain:

- Spain has not given up claiming sovereignty over the Rock, however.
- In 1969, dictator General Franco closed the frontier entirely, turning a generation of Gibraltarians against Spain.
- Regular squabbles are had over fishing rights, territorial waters, the airport and land access to Gibraltar – where some 4,000 local Spaniards work in a booming economy that is home to part of **Europe's online gambling industry**.
- In **2002, a shared sovereignty** deal was nearly reached, but both the conservative Spanish prime minister José María Aznar and the 30,000-strong population of Gibraltar – who voted 98% against – walked away from it.

What has changed?

- In June 2016, British voters decided at a referendum to leave the European Union.
- Gibraltarians were also allowed to vote.
- Realising that departure from the EU would leave them exposed to Spanish demands for sovereignty, they **voted 96% in favour of staying. But when the UK leaves, Gibraltar must leave, too.**

What are the recent developments?

- When British Prime Minister Theresa May began the formal process to withdraw from the European Union recently – “invoking Article 50” – she forgot to mention Gibraltar in her official notification.
- But Brussels did not.
- Buried in the EU's response was a reminder that, after the UK's exit, Gibraltar's existing treaty status would no longer be valid.
- And in the future, the decision would no longer be Europe's, but that of the Kingdom of Spain – which has, since it first ceded Gibraltar to the might of the Royal Navy in the early years of the 18th century, wants it back.

What is the way ahead?

- One is for Gibraltar to **remain entirely British**, run all future EU deals past Spain and accept the risk of these being blocked – with potentially devastating effects on the local economy.
- Another is **shared sovereignty**.
- That would allow Gibraltarians to stay in the EU and enjoy joint British and Spanish nationality.

- They would remain EU citizens, with all the rights that come from that, while keeping their current institutions and legislation.
- If Spain closes its borders, then Gibraltar goes back to the isolated, poor 1960s, in which it had to be resupplied by air because Britain and the Franco regime in Madrid were in a constant state of confrontation.

6.8 INDIA'S MEMBERSHIP IN THE INTERNATIONAL ENERGY AGENCY

Why in news?

India joined the ranks of the IEA's membership as a "Member by Associate".

What is the history?

- India had been engaging with the organisation long before the membership.
- In 1998, India had signed the Declaration of Cooperation covering issues related to energy security and statistics.
- Subsequently, it had signed three Joint Statements with the IEA covering various areas of mutual interest in the energy spectrum.
- **The priority area for co-operation had been in oil and gas security.**
- But before 2011, the Mo&PNG ministry had recommended that while India should collaborate with the IEA's programmes through agreements and MoUs, it should not become a member of the organisation per se.
- The rationale was that the cooperation with the IEA would allow India to maximise the strategic depth of its crude oil reserves, bring technical assistance but it would also **come with a lot of obligations entailed by membership.**

Why did India formally join the organisation?

- With IEA's **growing role in combating climate change**, it allows the promotion of clean energy technologies in some of the world's largest carbon emitters.
- It will provide India the geopolitical platform to take the lead in climate and energy issues.
- It deepens the engagement with the IEA in achieving the '**Power for All**' initiative.
- It would also give India an opportunity to **become the voice of the developing world.** e.g. International Solar Alliance (ISA) initiative.
- ISA provides it with a platform to position itself as a leader on the world energy and environment stage.
- However, the success of the initiative will depend largely on the number of countries coming on board, collaboration with other multilateral bodies, including the UN, IEA, **IRENA (International Renewable Energy Agency)** as well as corporates and industry, among others.
- Over 70% of the world's energy consumption comes under the IEA umbrella, so the association with the IEA will substantially increase India's relevance in global energy governance.
- IEA can encourage financial institutions to support India's energy, particularly, its solar energy programme.

6.9 IMF REFORMS

Why in news?

Indian Finance Minister called for reforms in IMF quota system.

Why quotas are important?

- **Quotas determine the size of contingency funds at the disposal** of the IMF to lend to countries in need of help.
- It also decides the power of individual countries to influence lending decisions and tap into the funds themselves.
- Though developing countries hold less than half the overall quota at the moment, with their rapidly increasing economic heft they have demanded a greater share – with limited success.

Why is the quota system a matter of concern?

- The **15th General Review of Quotas (GRQ)**, the most recent attempt to revise the size and composition of the system, was to be completed by October 2017, but now extended to 2019.
- The delay was not unexpected, given the poor precedent set by the long delay in adoption in 2016 of the previous GRQ (originally approved in 2010).
- That had doubled the overall size of the quotas to \$659 billion (from \$329 billion) while allotting an additional 6% of quotas to the developing world.

Why IMF's relevance is being questioned?

- This delay is raising the **question of relevance of the Bretton woods institutions** among the developing countries.
- Also at stake is the potency of the IMF in keeping up with the changed fundamental needs of developing economies.
- The developing world is **looking beyond the short-term crisis management tools** that the IMF, as the sole international lender of last resort, has traditionally offered them for decades now.
- China, for instance, with its steadily rising influence on the global economy, has grown to be the focal point for economies seeking alternative sources of capital to fund their long-term growth needs.
- India announced that it is seeking \$2 billion from **the New Development Bank**, set up by the BRICS countries in 2015 with a more equitable power structure, to fund infrastructure projects.
- **The Asian Infrastructure Investment Bank**, launched in 2014, could be an even bigger threat to the IMF's influence given its larger membership, lending capacity and international reach.
- In this environment of competition, the IMF will have to do more than just superficially tinker with its asymmetric power structure and out-dated quota system.

6.10 INDO-IRANIAN RELATIONSHIP

What is the issue?

Trump administration is very hostile towards Iran which could dismantle the most successful agreement (Iran and P5+1 nuclear deal) causing another regional tension in West Asia.

What is the ground scenario?

- Trump administration is terming Iran “a leading state sponsor of terror”, and a supporter of crisis in Yemen and Syria.
- US long term allies Saudi and Israel are increasing its pressure on US to increase its presence in West Asia and de-stabilize Iran.
- This is evidently seen by increasing U.S. troops abroad have been accompanied by an unprecedented \$54 billion increase in the defence budget.

How does this tension affect Indo Iranian relation?

- In October 2016, **Iran was India’s largest supplier of crude oil**, with its exports to India exceeding the overall largest supplier Saudi Arabia’s exports of 697,000 barrels per day (bpd) by over 10%.
- India is also funnelling Iranian oil into its expanding strategic petroleum reserves (SPR), with a view to holding 90 days’ supply against contingencies.
- Crucially, Tehran has consistently offered New Delhi very favourable terms, including non-dollar oil sales and other commercial attractions.
- Iran buys basmati rice and sugar from India, as well as various agrochemicals and petroleum products.
- The Indian government has, furthermore, taken steps to reassure Indian insurers in the public and private sectors, as well as banks, over the risks of handling Iranian money while the U.S. sanctions regime remains in force.
- In addition, India and Iran have reached agreement on the expansion of several industrial facilities at **the port of Chabahar**.
- Another substantial deal is the one under preparation for India to have operating rights in the Farzad B gas field, which lies within Iranian waters in the Persian Gulf.
- **One more sanctions by international community Iran will severely undermine the progress made till now.**
- Among the commercial agreements which have followed the Iran nuclear deal (the Joint Comprehensive Plan of Action between Iran, the five permanent members of the United Nations Security Council and the European Union), is a 10-year, \$16.6-billion contract for the aerospace giant Boeing to supply Iran Air with 80 passenger aircraft.
- Thus any attack on Iran could put about 1, 00,000 U.S. jobs at risk.

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GS PAPER III

7. INDIAN ECONOMY

7.1 MISUSING FINANCE BILL

What is the issue?

India encountered a crisis a few days ago when the government faced a major embarrassment in the Rajya Sabha as five amendments moved by the Opposition to the Finance Bill, 2017, were adopted with a significant margin.

What happened recently?

- The Lok Sabha, as a popularly elected House, negated the above said motions because the constitution vests the final powers over such a bill in it.
- But the governance practice of innovating many other laws and of dubbing these as a Finance Bill is being questioned as constitutionally improper.

Does there is any violation of constitutional propriety?

- Any formal accusation of constitutional impropriety must take seriously political arithmetic (availability of votes necessary to pass the bill) as well as moral mathematics (politically the right governance thing to do).
- The former dictated the reign of the Lok Sabha, where the NDA has sufficient votes; the latter demanded an appropriate deliberation, a structural decoupling of the Finance Bill from other non-taxing laws.
- The practice of amending other laws as money bills is on a high growth curve, since the government feels that its governance programme is unreasonably restricted in the Upper House.
- Although considered as a compelling political ground, the democratic propriety of the emerging practice of constitutional governance remains contested.
- A procedural and a substantive argument has been made in favour of constitutionality.
- The procedural argument is that the constitution vests the power in each House of Parliament to determine its own procedure and Parliament remains autonomous of judicial control and review.

Can the judiciary interfere in this issue?

- The question confronting our constitutional future is whether this power is absolute, especially given its adverse impact on the freedom of effective parliamentary deliberation and participation in governance.
- The Supreme Court may not resist an invitation to consider this question, if the habit of tagging major legislative proposals as money bills continues.
- **The court has, in the past, restricted legislative discretion (for example, the legislative power to govern by re-promulgation of ordinances).**

- Mere difference of opinion on how these policy goals are to be attained may not be allowed to obstruct the pursuit of the goals.

What are the adverse impacts?

- Indirectly, it removes the rationale for bicameral legislatures, especially when they are considered as obstacles to a popularly elected government.
- Directly, respect for the citizen's right to democracy stands endangered. This respect is enshrined in the constitution and now stands judicially enunciated in the doctrine of its basic structure.
- The Supreme Court has also declared the **Universal Declaration of Human Rights** and the **UN Declaration on the Right to Development** as binding principles for interpreting the Constitution.

7.2 CAG AUDIT OF GST DATA

What is the news?

For full implementation of the GST regime, to decide the compensation for States and to determine their revenue share, auditors of the CAG will require access to two different datasets, which are proving difficult to come by.

What are the major issues?

- One of them is data pertaining to revenue that would accrue to States from alcohol and petrochemicals, both of which are outside GST for now.
- The second issue of where and how CAG auditors will get access to the GST data continues to vex officials.
- The tax data, whether it belongs to States or Centre, is already available to CAG under existing constitutional provisions.
- Now, the GSTN is refusing to give the CAG access to its network, saying it is only holding the data in a fiduciary capacity since the tax data originally belongs to the Centre and States.

What is the issue with GSTN?

- Officials also pointed out that the **GSTN is owned by a private company, and thus cannot be audited by CAG.**
- The GSTN claims it is a private company as 51% stake in the company is held by private companies such as HDFC and ICICI Bank.
- The CAG has pointed out that under the new Companies Act, GSTN can be counted as government-controlled company since its strategic control will be with the government.
- Thus, like any PSU, the CAG could audit GSTN. But that is a minor issue. The real issue is where would auditors get access to the data.

- Accessing the data at various points i.e., point of manufacture, point of sale etc., would make the **GST audit a complicated and almost impossible task**, and will hamper other functions, which would include CAG certification about the share of GST for States.
- There is no solutions available, other than auditors getting access to the entire **GST data in a centralised location**.
- Meanwhile, the auditors would be using data available from individual States to assess their share of taxes earned from alcohol and petrochemicals, which would be kept out of GST.

7.3 STAGNATING EXPORT

What is the issue?

The trade numbers for 2016-17 is showing a declining trend when compared to 2015-16.

What does statistics say?

- Trade volume in 2011-12 was \$305 billion.
- It stayed above the 300-mark for the next three years before dropping off sharply in 2015-16.
- In 2016-17 it is \$270 billion
- The world exports showed similar trends due to slow growth all over the world.
- Global merchandise exports in 2016 were \$16.5 trillion which was down by about 10 per cent from \$18.2 trillion in 2011.
- India's share of global exports has remained more or less unchanged since 2011, at about 1.7%.
- Prior to this there has been a steady increase in merchandise exports, from 0.8% in 2004.

How far do the global factors affect?

- Part of the fall is due to the drop in oil prices since 2014, because of which the export of petroleum products has shrunk in value.
- Other reason is the growing energy self-sufficiency of the US, which has sharply reduced its energy imports.
- The other is the enormous success that China has had in import substitution.
- It supplanted imports from East Asian countries with domestic inputs into the manufacturing supply chain.

What are the domestic factors?

- India-China trade is one of the most unbalanced anywhere, with an export-import ratio of about 1:5.
- India also runs a trade deficit with about 2/3rd of its important trading partners.
- They signify that the problem lies at home and not abroad.
- India's exports are concentrated in very few products and very few markets.
- This makes the country vulnerable to negative swings in world trade.

What is the real reason?

- In spite of this India's improved on the Economic Complexity Index, to 45th in 2014 lace from 61st in 1995, in a list of 124 countries.
- This reiterates the fact that the real problem is not in world trade stagnation, or Chinese mercantilism, or a narrow export base though all of them are contributory factors.
- The real problem is the failure to develop an efficient manufacturing base.
- India has a surplus in services trade, agricultural goods trade (being the sixth largest exporter).
- It also has a surplus in transfer payments/remittances.
- But lags heavily in manufacturing sector whose share of the total trade in goods and services combined has been declining steadily.
- This has to be substantially improved to increase India's exports.

7.4 HANDLING BAD LOANS

What is the share of bad loans?

- Bad loans — or non-performing assets (NPAs) — were 9% of total loans of all Indian banks in September 2016.
- At public sector banks (PSBs), bad loans were 12% of all advances. Another 3% of loans in the aggregate (and 4% at PSBs) have been restructured.
- The Economic Survey (2016-17) quotes market analysts as saying that 4-5% of loans are bad loans that have not been recognised as such.
- Thus, total stressed assets — NPAs, restructured loans and unrecognised bad loans — would amount to a staggering 16% of all loans and nearly 20% of loans at PSBs.

Where is the genesis?

- Today's bad loan problem has arisen from the lending boom that India's banks embarked on in the period 2004-08, a period that saw economic growth reach the 9-10% range.
- However, that by itself did not create a problem of the current magnitude.
- It is the failure to resolve the bad loan problem over the past several years that has exacerbated the problem.

Why has the bad loan problem remained unresolved?

- One, banks keep financing projects that are not making repayments in full and would qualify as NPAs.
- They do so in the hope that, once growth revives, cash flows in the projects will improve.
- Two, banks grow their loan portfolio at a brisk rate. As the denominator in the ratio of bad loans to total loans grows, the bad loan problem automatically diminishes in significance.

What can be done?

- There is clarity now that banks must be empowered to resolve the relatively small number of bad loans that account for a big chunk of the total in terms of value.
- In many cases, this would mean that banks write off a portion of the loans owed to them.

- Managements at PSBs have been reluctant to do so for fear of inviting action from the Chief Vigilance Commissioner, the Comptroller and Auditor General, the Central Bureau of Investigation and other bodies.
- To stiffen their spine, we need to put in place an authority that will vet loan settlement proposals put up to it.
- The BBB has constituted a two-person oversight committee but reports suggest that the committee will not take a view on write-offs.
- We need a larger oversight committee or, as the Finance Ministry has proposed, multiple oversight committees to speedily vet loan write-offs.
- It makes sense to constitute a **Loan Resolution Authority by an Act of Parliament.**
- This must be complemented with other measures. Banks must develop the discipline of keeping thorough minutes of the proceedings related to resolution of bad loans.
- **The government must provide adequate capital to the banks to cover write-offs and also facilitate fresh loan growth.**
- It must end the delays in appointing Chairmen and Managing Directors of various PSBs. It must also revamp the boards of PSBs by bringing in independent directors of high quality.
- The way forward is to empower management and strengthen governance at PSBs.

7.5 RAIL DEVELOPMENT AUTHORITY

What is the issue?

Creating a Rail Development Authority for India is among the most significant reforms to an infrastructure system undertaken by the government.

What is the importance?

- The railways connect the country's far corners and act as a driver of the economy.
- **High rates of economic growth have raised the demand for travel, but this remains largely unmet.**
- The popular aspiration is for a modern system that offers high-quality travel with low risk of accidents, while industry wants smooth freight transfer.
- An independent, empowered regulator could be the paradigm shift that is needed.

What the NTDPC says?

- The **National Transport Development Policy Committee noted in 2014**, the centralisation of all functions in the Railway Board has proved detrimental to the organisation's growth, particularly at a time when there is a need for massive investment in infrastructure for 7%-plus GDP growth.
- Conversely, robust economic expansion further raises the demand for railway services.

What is expected from the proposed authority?

- The proposed Authority would have to ensure that the resources of the system are optimally utilised, overcoming existing inefficiencies that arise from the fact that policy, regulatory and management functions of the railways are intertwined.

- To reconcile this, the regulator has to identify sectors that can support higher tariffs and also produce greater volumes of traffic.

What are the challenges?

- One of the big challenges before the Centre is to facilitate higher non-budgetary investment in the railways.
- The **Bibek Debroy Committee** found the private sector is discouraged from participating more effectively due to a monopolistic framework.
- Coming up with a system that de-risks private investment and creates a level playing field are among the major challenges before the Rail Development Authority.

What are the available opportunities?

- In the area of passenger services, this offers several possibilities; the railways cater to some 23 million passengers a day in a network of about 8,000 stations.
- The experience of consumers in cities shows that **use of information technology to deliver traditional services can lead to higher levels of efficiency and lower costs, besides adding jobs.**
- While regulation of tariffs matching the quality of travel can help raise revenues, the system should be able to move both people and freight faster in order to grow.
- Inducting faster, more comfortable trains on 500 km-plus inter-city routes would attract new traffic, and help operate cheaper passenger trains to interior areas, as part of the government's social obligation.
- Technology upgrades are essential to raise carrying capacity, service frequency and speeds.
- Rail reform is complex and what was undertaken in Europe during the 1990s, separating infrastructure from operations, is an interesting model: sequential measures achieved sustainable results, rather than a package of changes introduced at once.

7.6 FRBM PANEL RECOMMENDS NEW SET OF TARGETS

Why in news?

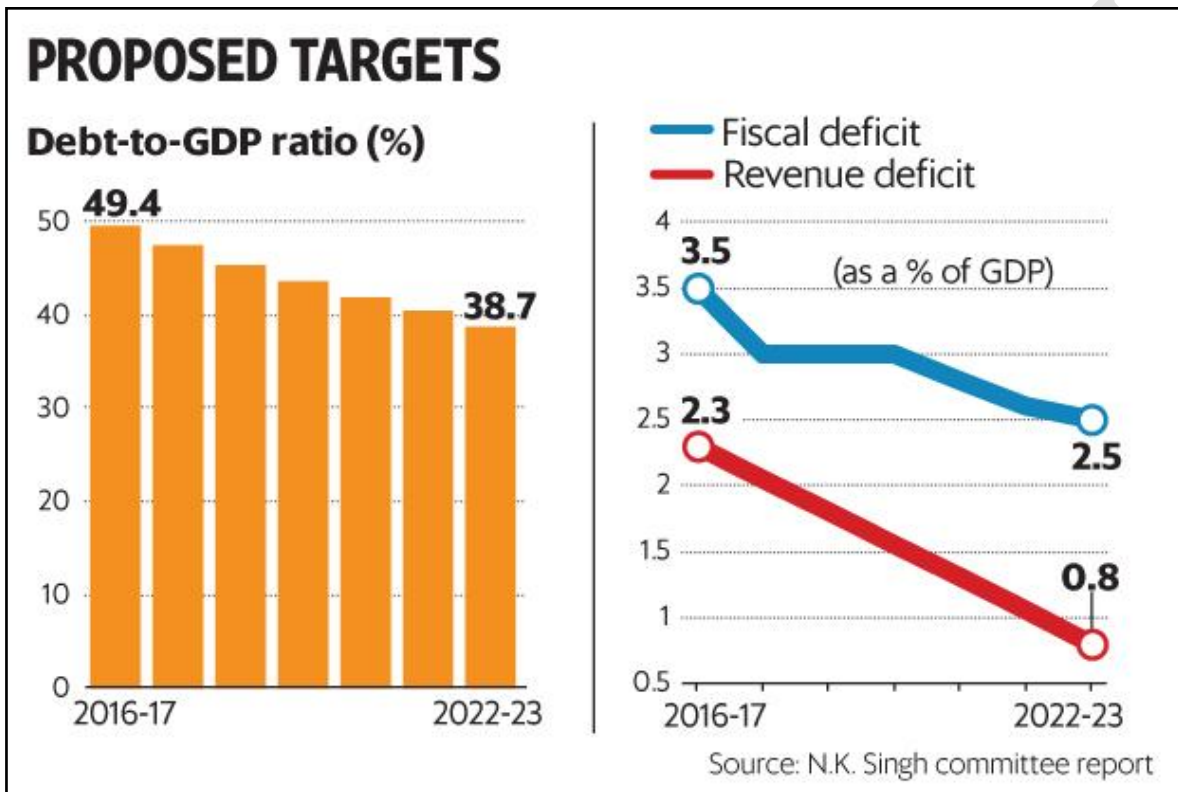
- A Fiscal Responsibility and Budget Management (FRBM) panel has recommended a **debt-to-GDP ratio** of 38.7% for the central government, 20% for the state governments together, a **fiscal deficit target of 2.5% of the GDP**, and a revenue deficit of 0.8%.
- The committee is headed by **N.K Singh**, and the report was submitted to the government in January 2017, but was made public on April 12, 2017. But, there's no indication as to whether the government will accept these recommendations.

What is FRBM Act?

- It is an Act of the Parliament of India to institutionalize financial discipline, reduce India's fiscal deficit, improve macroeconomic management and the overall management of the public funds by moving towards a balanced budget and strengthen fiscal prudence.
- The main purpose was to **eliminate revenue deficit** (building revenue surplus thereafter) and **bring down the fiscal deficit** to a manageable 3% of the GDP by March 2008.
- However, due to the 2007 international financial crisis, the deadlines for the implementation of the targets in the act was initially postponed and subsequently suspended in 2009.
- The main objectives of the act were:

- to introduce transparent fiscal management systems in the country.
- to introduce a more equitable and manageable distribution of the country's debts over the years.
- to aim for fiscal stability for India in the long run.
- N. K. Singh is currently the Chairman of the review committee for FRBM Act, 2003, under the Ministry of Finance.

What the panel has said?



- This and other recommendations form part of the **draft debt management and fiscal responsibility Bill**, which, if accepted by the present government, will replace the existing FRBM Act.
- In the four-volume report it was in favour of reducing revenue deficit to GDP ratio steadily by 0.25% points each year.
- With an aim to provide flexibility to policymakers within the fiscal framework, the panel, has suggested a **steady target of 3% from FY18 to FY20**.
- It has also recommended certain strict '**escape clauses**' which will allow the govt deviate from the fiscal road map by 0.5% for any given year.
- It suggested the setting up of a '**fiscal council**', an independent body which will be tasked with monitoring the government's fiscal announcements for any given year.
- It will provide its own **forecasts and analysis** for the same as well as **advise** the finance ministry on triggering the escape clauses.
- To ensure these escape clauses are not misused by the government, the panel said they have been defined very narrowly and specifically.

- The escape clauses are proposed for overriding consideration of national security like acts of war, calamities of national proportion and collapse of agriculture, etc.,
- They can be invoked by the Centre after formal consultations and advice of the fiscal council.
- It also provided that it should be accompanied by a clear commitment to return to the original fiscal target in the ensuing fiscal year.
- The panel's report also says that the **focus of policymakers should be on reducing primary deficit** rather than fiscal deficit.

What are the issues with the targets?

- The committee has also recommended using the fiscal and revenue deficits as operational targets to achieve the debt anchor.
- By 2022-23, the fiscal deficit should be 2.5% of GDP and the revenue deficit should be 0.8% of GDP.
- **India needs massive spending on health care and education**, which represent vital investment in human resources, without which no economy can compete effectively in the emerging, knowledge-intensive world.
- So, if public spending in education and health care is to grow, a **revenue deficit becomes unavoidable**.
- Also, the target of reducing government debt to 60% **implies a virtual ban on fresh debt** that is over and above what is needed to service existing debt. Thus, the recommendation in this regard looks totally impractical.
- Arvind Subramanian (CEA) is also a member of the committee, has also **spoken against affixing arbitrary targets for debt and the fiscal and revenue deficits**.
- He said that the government should aim to **wipe out the primary deficit** (fiscal deficit minus interest payments).
- While there is merit in wanting to eliminate the primary deficit, this approach is more suited for developed economies, where tax revenues are higher and demands on government for capital expenditure are far more modest.

What could be done?

- CEA's suggestion is to **reduce the primary deficit** while India's growth rate is far in excess of the interest rate.
- Unlike interest payments, which are largely pre-determined, the primary balance is in the ambit of government control.
- The CEA's position **may give the government more room** because the primary deficit for the Centre is already close to zero.
- A zero primary deficit would make it impossible to borrow for capital/infrastructure projects unless there is a substantial revenue surplus.
- For a country like India, fiscal prudence must take into account the quality of expenditure and not just the quantity.

7.7 WHOLESALE AND LONG-TERM FINANCE BANK

What is the issue?

After having issued licences for new-age payments and small finance banks, the RBI has now published a discussion paper on the need for wholesale and long-term finance (WLTF) banks.

What is WLTF?

- The idea is that as the financial sector grows, apart from a number of universal banks, it may be **useful to have differentiated banks** focusing on different areas and developing competence.
- This will reduce the cost of intermediation and lead to better economic outcomes.
- The WLTF banks will focus on lending to the corporate sector, small and medium businesses, and the infrastructure sector.
- They may also offer services in the area of foreign exchange and trade finance.
- Further, they can act as market makers in instruments like corporate bonds and credit derivatives.
- WLTF banks can raise funds through issuance of debt and equity. They may also be allowed to accept term deposits above a threshold.

What are the advantages?

- As specialized institutions, they will be in a much better position compared with commercial banks in **evaluating and funding long-term projects**.
- It's not easy for companies to get long-term financing because of the underdeveloped corporate bond market and possible asset liability mismatch in the banking system.
- With specialized banks, **NPA risks could possibly be avoided** in the future.
- It may also help the rest of the banking sector in the case of joint lending, or by simply getting the project evaluation from these banks.
- Establishment of WLTF banks will also enhance competition, which will **lead to more efficient allocation of financial resources**.

Does India have prior experience?

- India has tried the **development finance institution (DFI) model** in the past with limited success.
- After independence, DFIs were established to increase the level of investment in the economy.
- **Industrial Finance Corp. of India (IFCI)** was the first such institution to be established in 1948.
- This was followed by the establishment of state finance corporations.
- In later years, other institutions like the Industrial Credit and Investment Corporation of India (ICICI) and Industrial Development Bank of India (IDBI) were established.

- However, DFIs **struggled with government interference and changes in the economy**, and accumulated high levels of NPAs.
- One of the biggest problems facing long-term finance institutions is competing for funds in the marketplace and being able to lend at competitive rates.

What are the factors to be considered?

- As the banking regulator mulls over issuing licences for new-age WLTF banks, there are at least **three aspects** that will need greater attention.
- **First, government participation** in setting up WLTF banks should be avoided as it could end up defeating the purpose.
- Government ownership would lead to the same problems that public sector banks are facing at the moment.
- Further, these banks will be highly specialized and will need operational freedom, which is not possible with government ownership.
- **Second**, licences should only be issued to entities that are able to demonstrate the ability to build such a highly specialized bank, and are in a position to bring in capital to both meet regulatory requirements and run the business on a sustainable basis.
- The central bank may allow industrial houses to participate to the extent that they are not in a position to influence business decisions.
- **Third**, the RBI will need to design a regulatory architecture that will enable growth with adequate safeguards.
- For example, the regulator may choose to exempt these banks from cash reserve ratio and statutory liquidity ratio requirements.
- These banks will compete directly with the bond market.

7.8 RETROSPECTIVE TAX AMENDMENT

Why in news?

- The Income Tax authorities slapped Rs. 30,700 crore penalty on Cairn Energy, the erstwhile U.K. parent of India's largest private sector crude oil producer, Cairn India.
- The tax authorities are persisting with their demands of collecting retrospective taxes from Vodafone PLC and the U.K.'s Cairn Energy.

What are the cases about?

- **Vodafone case** - CGP Investments (Holdings) Limited is a Cayman Islands-registered company, which owned the Indian assets of Hutchison Essar.
- Vodafone International Holdings B.V., a Dutch company, acquired 67% of an Indian company, Hutchinson Essar Limited, by buying 100% stake in CGP.
- **Cairn case** - The assets held by Cairn India Holdings had to be transferred to a company registered in India, which was done by Cairn India (an Indian entity) buying the entire stake in Cairn India Holdings from Cairn U.K. Holdings.

- Both the cases involve a transfer of ownership of an Indian entity by way of an overseas transaction involving parties which did not fall under Indian tax jurisdiction.
- In both cases, the tax authorities argued that though the deal was between two overseas entities, the shares derived their value from assets held in India, and hence were liable for capital gains tax.
- The Supreme Court struck down the demand in the Vodafone case.
- The government then retrospectively amended the law to allow indirect transfers which derive substantial value from assets located in India to be subjected to tax.

What are the problems?

- The amendment was used to nullify a judgment of the Supreme Court and undermines the Court's authority.
- The issue is not just that the tax authorities are persisting with their efforts to collect the money.
- The issue is why the retrospective amendment is being allowed to continue in the statute books.
- It is against the government's determination to root out "tax terrorism", and undermines 'Make in India' initiative.
- Changing the rules, after having started doing business discourages business environment and potential investments.

7.9 BAD BANK

What is the issue?

- The total stress in the Indian banking system is about Rs. 14 lakh crore, i.e., this is the amount for which loans have been given to industry and for which there is now no certainty of repayment.
- Public sector banks share a disproportionate burden of this stress.

What is PARA solution?

- Amid the sharp rise in NPA, talks of setting up a 'bad bank' have been gaining momentum.
- A bad bank is a bank set up **to buy the bad loans of a bank** with significant nonperforming assets at market price.
- By transferring the bad assets of an institution to the bad bank, the banks clear their balance sheet of toxic assets but would be forced to take write downs.
- Shareholders and bondholders stand to lose money from this solution (but not depositors).
- The government and the RBI are drawing up strategies on how to operationalise a 'bad bank' scheme.
- The economic survey of 2016-17 pointed out the twin balance sheet problem and advocated a **centralised Public Sector Asset Rehabilitation Agency (PARA)** be established to deal with the bad loans problem.
- International experience shows that a **professionally-run central agency with government backing**, while not without its own concerns, can overcome the difficulties and could prove more successful than banks in resolving bad debt.

What is the biggest challenge in setting up a bad bank?

- One challenge private sector ARCs face is that of capital. None of the entities till now has been allowed to tap the capital market for raising funds.

- Some central bank as well as government officials also admitted capital was the biggest challenge in setting up a 'bad' bank.
- At least Rs. 25,000 to Rs. 30,000 crore of capital will be required to set up a bad bank in the initial stages.

What are the proposed solutions?

- RBI deputy governor Viral Acharya recently suggested two models to solve the problem of stressed assets.
- The first, **Private Asset Management Company (PAMC)**, is said to be suitable for sectors where the stress is such that **assets are likely to have economic value in the short run**, with moderate levels of debt forgiveness.
- Some of the sectors which this model could address metals are telecom and textiles.
- In this model, each resolution plan would get vetted and rated by at least two credit rating agencies to assess the financial health and in terms of timeline, the banking sector may be asked to resolve and restructure, say, its 50 largest stressed exposures in these sectors, by December 31, 2017.
- The second model is the **National Asset Management Company (NAMC)**, which would be necessary for sectors where the problem is not just one of excess capacity but possibly also of **economically unviable assets in the short- to medium-term**.
- Mr. Acharya cited the example of the **power sector**, where projects have been created to deliver aggregate capacity that is beyond the estimated peak utilisation any time soon.
- Unlike the PAMC where asset recovery is likely to be relatively quick, NAMC assets may require a long time to start generating cash flows.

Are these supposed to be bad banks?

- The answer is 'No'. A 'bad bank' conveys the impression that this entity is to operate as a bank but has bad assets to start with. In fact, the idea is not to operate these entities as banks at all.
- Acharya said it would be better to limit the objective of these asset management companies to orderly resolution of stressed assets with graceful exit thereafter.

7.10 NITI AAYOG'S GOVERNING COUNCIL

Why in news?

The third meeting of the Niti Aayog's Governing Council held recently with the main agenda of deliberating on the 15-year Vision Document to accelerate the country's economic development.

What is the significance?

- The last Five Year Plan ended on March 31.
- It is to be replaced by a three-year action plan.
- This was to be part of a seven-year strategy that would in turn help realise a 15-year long-term vision.
- There were great expectations from the NITI Aayog, the successor of Planning Commission.
- The Governing Council consists of all Chief Ministers and Lieutenant Governors of States and Union Territories.

What is the outcome?

- India's GDP will rise by Rs. 332 lakh crore in the next 15 years.
- Assuming that the economy grows at 8% annually hereon, the Aayog has presented estimates about the size of the economy and per capita incomes by 2031-32.
- PM's asked the States to speed up capital expenditure and infrastructure development implying that pump-priming the economy is not only the Centre's task.

What are the shortcomings?

- It was hoped that the fine print as well as the big picture of the new planning approach had been worked out.
- This agenda is meant to be the first step towards attaining the envisioned outcomes by 2031-32.
- However, only a draft action agenda for the three years till 2019-20 was handed out.
- Without the larger strategy and vision in place, the three-year action plan is likely to be more of an abstract and might be reverted.
- Asking the States to take the initiative on switching India's financial year to match the calendar year is unusual as it requires the Centre to take the lead by making public the report of the committee that has recommended this.
- It is not yet apparent if the 12th Plan's innovation of painting alternative scenarios (of actions and outcomes) has been adopted.
- To make cooperative federalism truly effective, the Council must meet more often.

7.11 WORLD ECONOMIC OUTLOOK

Why in news?

International Monetary Fund's (IMF) recently released World Economic Outlook.

What is secular stagnation?

- Many economists believe that the world economy was in the grip of 'secular stagnation'
- It is an expression coined by the economist **Alvin Hansen** in the 1930s.
- Hansen argued that **where savings substantially exceed investment, the real interest rate tends to drop to a very low level.**
- Conventional monetary policy operates by reducing nominal interest rates in order to stimulate growth.
- Where the nominal interest rate is already close to zero, there isn't much scope for cutting interest rates.
- In conditions of 'secular stagnation', **conventional monetary policy is doomed to be ineffective.**
- The burden of reviving growth in such a situation falls on fiscal policy.
- This means running up large government deficits and increasing public debt.
- But markets will finance government borrowings only up to a point.
- There is also resistance among policymakers to increased government spending.

What is the present world economic scenario?

- This seemed to be an accurate description of the world economy in recent years.
- The real interest rate had been falling for several years.
- This was because savings were rising and investment was falling.
- Higher savings flowed from factors such as **greater inequality, greater life expectancy and reduced post-retirement benefits.**
- Investment had fallen because **capital goods had become cheaper.**
- With decreased spending, inflation rates also fell in the advanced world.

What are the findings of IMF?

- The prospects for the world economy have improved.
- The world economic growth accelerates from 3.1% in 2016 to 3.5% in 2017, and 3.6% in 2018.
- Growth in advanced economies is projected to rise from 1.7% in 2016 to 2% in 2017 and 2018.
- Emerging markets will grow at 4.5% in 2017, and 4.8% in 2018, compared with growth of 4.1% in 2016.
- China will see growth decelerating from 6.7% in 2016 to 6.6% and 6.2% in 2017 and 2018, respectively.
- India's growth, in contrast, will accelerate from 6.8% in 2016 to 7.2% and 7.7% over the next two years.
- The IMF also warns that high income inequality is likely to persist.
- The IMF warns that emerging markets, including India, will find the external conditions for growth less supportive than in the post-2000 period.
- Tightening monetary conditions in the advanced world spell lower capital flows.

7.12 SEBI REFORMS

Why in news?

SEBI recently announced a commodity market reform of permitting exchanges to launch options contracts.

What are the changes announced?

Allowing exchanges to launch options contracts **would deepen the domestic commodity market.**

It would provide farmers and other participants a new hedging tool, in a more cost-effective manner.

Single broking licence - Stockbrokers will be allowed to deal in commodities and vice versa. Within a year, a single licence will be allowed for exchanges as well.

The move will help the Multi Commodity Exchange (MCX) to launch equities trading, and the National Stock Exchange (NSE) and the BSE to foray into the commodity derivatives space.

- **QIB** - A qualified institutional buyer (QIB) status on important non-banking finance companies (NBFCs) that have net worth of more than Rs 500 crore is accorded.
- Earlier, NBFCs had to invest in the non-institutional category, which has only 15% reservation.

- The current move will give NBFCs greater play in the IPO market, as nearly half the issue size is reserved for QIBs.
- **Monitoring Authority** - Capital raised in IPOs could be misused or siphoned off.
- So to ensure transparency in the use of proceeds, all IPOs raising Rs 100 crore or more in fresh equity capital will have to appoint a “monitoring agency”.
- Until now, it was mandatory only for IPOs that raised over Rs 500 crore.
- **P notes** - Residents and non-resident Indian (NRIs) are not allowed to take direct or indirect exposure to the market participatory notes (p-notes).
- MFs can be bought through e-wallets, such as Paytm, Mobikwik and Freecharge.
- Sebi announced a new framework for consolidation and re-issuance of debt securities aimed at boosting the bond market and infusing more liquidity.

7.13 STRENGTHENING RUPEE

Why in news?

The rupee is gaining strength, with the dollar-rupee rate breaking past the 66-level and went on to mark a 20-month high of 63.93 last week.

What are the factors responsible?

- **UK's referendum** - The British currency took a beating immediately after the referendum. The pound declined 20% against the dollar.
- **U.S Elections** - Another event that marked a significant shift in the global economic order was the victory of Donald Trump in the US presidential elections. This made the dollar index break.
- But the rupee was not unduly hassled by these events.
- **Strong foreign flows** - The initial trigger that helped the rupee break the 66 level came in the second week of March this year after the BJP's resounding victory in the State Assembly elections in Uttar Pradesh.
- This triggered a strong surge in Foreign Portfolio Investors' (FPIs) interest towards the Indian market.
- **Weak dollar** - The second factor that has helped the rupee break the key 66 level is the recent weakness in the dollar.
- The US Federal Reserve's stance on the rate hike front had pushed the dollar index below 100 over the last couple of months.
- **Trade and deficit** - After falling continuously on a year-on-year basis from December 2014, India's exports are showing signs of recovery since September last year. Exports have surged 35.85 per cent, from \$21.52 billion in August 2016 to \$29.23 billion in March 2017.
- Crude oil prices have been hovering around \$50 per barrel over the last few months.
- Gold has been gaining sheen from the geo-political uncertainty between the US and North Korea and from the broader weakness in the US dollar.
- India's current account had improved from a deficit of \$7.08 billion to \$0.3 billion in June 2016.

- **Current Account Deficit (CAD)** has been widening and is back to \$7.92 billion as of December 2016. Given that there is low possibility of the trade deficit to improve in the coming months, there is a danger of the CAD widening further.
- **External debt** - India's external debt is also reflecting a mixed picture. While the long-term debt has come down sharply by 6 per cent, from around \$398 billion in December 2015 to \$372 billion in December 2016.
- **RBI and forex reserves** - The RBI has been building up its forex reserves consistently. The reserves have risen 7 per cent, from around \$344 billion in April 2015 to \$369 billion now.
- Since the rupee has appreciated sharply in a very short span of time, there is also expectation that the RBI will intervene to arrest further strength in the currency. This can involve selling the rupee and buying dollars, which can bolster the reserves further.
- **Rupee overvalued** - The rupee appears overvalued when the Real Effective Exchange Rate (REER) is taken into consideration.
- A currency is considered overvalued if its REER is greater than 100 and it is undervalued if the REER is below 100. REER is a measure of valuing a currency against the currencies of its trade partners, adjusted for inflation.

What are the upcoming risks?

- The developments with regard to the US and North Korea will need a close watch.
- Any uncertainty may trigger a global risk-off trade.
- The second round of French elections and the UK snap election is up in June. Germany is heading for polls in September.
- Strong inflows and the weakness in the dollar are positives for the rupee.
- But the widening deficits, strong outlook for gold and oil prices, which can increase the import bills and over-valuation of rupee based on REER, are negatives for the rupee.
- Moreover, geo-political tensions and a series of upcoming elections may cause short-term volatility, capping the upside in the rupee.

8. AGRICULTURE

8.1 NITI AAYOG ON FARMER'S INCOME

Why in news?

Irrigated farmland in the country must **increase by 19 per cent and availability of quality seeds by 167 per cent** if the Centre wants to double farmers' real income by 2022-23, according to a plan devised by NITI Aayog.

Doubling the farmer's income:

- The base year for above said calculation is **2015-16**.
- The Centre has started discussions with stakeholders to devise a roadmap for **doubling farmers' real incomes by 2022-23**.
- A 2012-13 NSSO survey showed the **nominal income** of farmers usually **doubled every six years**.
- It pegged the average income at Rs 6,426 per month in 2012-13 against Rs 2,115 per month in 2002-03.
- The Centre now wants to double farmers' real income.

What the plan says?

- The plan says unless efficiency is achieved, the Centre will need to increase NPK fertiliser availability by 38 per cent to 36 million tonnes by 2021-22.
- It also talks of the power supply needed on farms, intensity of crops and how much land will be needed for high-value crops.
- Till now, most of the discussion on doubling farmers' incomes has been theoretical.
- The Aayog has suggested that instead of crop-specific advice, the Indian Council of Agriculture Research (ICAR) divide farmland into clusters and suggest comprehensive packages for growth of farming in individual areas.
- This could include horticulture, livestock and alternative sources of income.
- The Aayog has also suggested reforming agriculture marketing, speedier adoption of a modern land lease law, private participation in direct purchase of farm produce and modern storage facilities.

What is the Action Plan?

- Area under irrigation should be increased by **19% by 2022-23** to 110.4-mn hectares.
- Availability of quality seed should increase by over 167% to around 8-million tonnes.
- Unless efficiency is improved, India would need to up its NPK supplies by 39% to 36-mn tonnes.
- ICAR should start giving comprehensive and exhaustive advisories for the entire farm and not just crop specific advisories.

8.2 FARM LOAN WAIVER

What is the issue?

The UP government's waiver of farmer loans, dramatic protests by Tamil Nadu farmers in Delhi and a warning from the RBI Governor against loan waivers — have once again brought farm loan writeoffs under public glare.

What is farm loan?

- **Farm loans may be crop loans or investment loans taken to buy equipment.**
- When there is a poor monsoon or natural calamity, farmers may be unable to repay loans.
- The rural distress in such situations often prompts States or the Centre to offer relief — reduction or complete waiver of loans.
- Essentially, the Centre or States take over the liability of farmers and repay the banks.
- Waivers are usually selective — only certain loan types, categories of farmers or loan sources may qualify.
- For instance, in 2008, crop loans and investment loans were waived for marginal and small farmers (those with less than 2 hectares of land ownership); other farmers were only given a 25 per cent reduction.
- The Madras High Court has directed Tamil Nadu to offer a waiver to all farmers in the State.

Why is it important?

- Agriculture in India has been facing many issues — fragmented land holding, depleting water table levels, deteriorating soil quality, rising input costs, low productivity.
- Add to this vagaries of the monsoon. Output prices may not be remunerative.
- Farmers are often forced to borrow to manage expenses.
- **Also, many small farmers not eligible for bank credit borrow at exorbitant interest rates from private sources.**
- When nature rides roughshod over debt-ridden farmers in the form of erratic monsoon and crop failures, they face grim options.
- Indebtedness is a key reason for the many farmer suicides in the country.
- Loan waivers provide some relief to farmers in such situations, but there are debates about the long-term effectiveness of the measure.

What the critics say?

- Critics demand making agriculture sustainable by reducing inefficiencies, increasing income, reducing costs and providing protection through insurance schemes.
- They point out that farm loan waivers are at best a temporary solution and entail a moral hazard — even those who can afford to pay may not, in the expectation of a waiver.
- **Such measures can erode credit discipline and may make banks wary of lending to farmers in the future.**
- It also makes a sharp dent in the finances of the government that finances the write-off. But farmers can decide the fortunes of political parties, and politicians are wary of antagonising them.

Why should we care?

- Anything relating to food - and hence its producers — concerns all of us.
- Farmers are not a happy lot — about 40 per cent of them dislike farming and would quit if they can, as per the NSSO's 59th survey.
- Not finding short-term and long-term solutions can severely impact food security.
- On the other hand, loan waivers cost tax payers. For instance, about ₹525 billion was spent on the loan waiver of 2008, as per the International Council for Research on International Economic Relations.
- The larger worry is that these costs may not be one-off, as politicians may wave this carrot to win elections.
- If you are an investor in bank stocks, you may have to worry, as waivers may add to the already elevated non-performing assets of banks.
- Waivers can offer temporary relief, but long-term solutions are needed to solve farmer woes.

8.3 INDIA'S SHRIMP TROUBLES

Why in news?

EU is about to test up to 50% of India's shrimp consignments for antibiotic residues such as chloramphenicol and nitrofurans.

What are the implications?

- It has ramped up the cost of India's shrimp exports.
- India's seafood exporters are miffed by the EU's crackdown, despite the absence of rejections in the recent past.
- EU tends to use SPS (sanitary and phytosanitary) restrictions in the case of seafood, fruit and vegetables in an exaggerated way, its specifications at times exceeding the norms prescribed in the Codex Alimentarius standards of the FAO.

What can be India's course of action?

- India can challenge the EU in the WTO if the latter's SPS norms in the case of shrimps (antibiotics levels in parts per million) are too stringent.
- Besides antibiotics residues, traceability criterion (where the catch was made) can be hard to meet.
- The government needs to strike a balance between improving storage, hygiene and marketing infrastructure on the one hand and resisting unreasonable demands that could compromise the livelihoods of 14 million traditional fisherfolk on the other.
- India's fisher people should indeed be entitled to similar protection as farmers under the WTO's 'livelihood box'.
- It is now being acknowledged that marine and fresh water pollution, accompanied by the effects of global warming and El Nino, is impacting fish catch, as in the case of anchovies in Peru, even as the global demand for fish is rising.
- Developing countries, which account for half the fish exports, can make common cause in multilateral trade and climate forums.
- India accounts for over 6% of the world fish production and 4% of the export of about 150 billion dollars. India should vie for a greater share in China, Japan and West Asia.
- Fish is endowed with protein and Omega-3 fatty acids, a boon for India where malnutrition and heart disease are endemic. But the quest for a "blue revolution" should not result in the offloading of health, social and environmental concerns.

8.4 UNUSUAL AGRICULTURAL GROWTH

What is the issue?

- Madhya Pradesh (MP) has achieved a double digit growth, with an average agricultural growth rate of 13.9 % over the five-year period 2010-15 — delivering a cumulative growth of 92 % over the period.
- **MP's record stands out against the backdrop of an all-India growth rate for agriculture of less than 4 %.**

What are the contributory factors?

- There has been a massive spread of **irrigation**, a sharp increase in **power supply** for agriculture, and **better access** to markets because of improved rural road **connectivity**. Yield levels have soared.
- The state's **crop acreage has increased**, and more farmers are now able to do a third crop in the year.
- MP has become second only to Punjab in its contribution to the central wheat pool.

Does MP replicate its success in other fields?

- Unusually, though, MP has not been able to replicate its success in agriculture in the rest of the economy — not in industry, and not in services.
- This is most unusual as well as counter-intuitive because **rapid growth of farm output should ordinarily lead to growth in transport and trade, finance and electricity use**, not to speak of an increase in personal consumption.
- And in manufacturing too: Punjab's Green Revolution was accompanied by the industrialisation of the state because of the production of agricultural implements, tractors, bicycles, textiles and garments.
- Because MP's growth in agriculture has not been matched by other sectors, the state's overall economic growth rate improved only marginally at first, and lagged the national average.
- Then it began to match the national growth rate; in the most recent years, MP has become the fastest-growing among the major states.

Is MP's agricultural track record sustainable?

- In 2010, the state had **the advantage of a low base** in terms of both output and productivity (yield per hectare).
- But even now, despite the improvements of recent years, its numbers are below the all-India averages for crop yield, fertiliser use and other yardsticks; the granary states of Punjab and Haryana are of course well above the national average.
- So while MP has 10.4 % of the country's gross cropped area, **it accounts for only 8.6 % of the value addition in agriculture**.
- That should mean the state still has headroom for growth but probably at a slower rate because it cannot expand its irrigation capacity and crop acreage as rapidly as in the past.

9. SCIENCE AND TECHNOLOGY

9.1 CLINICAL TRIALS

Why in news?

A long-drawn legal battle over collusion by the Health Ministry with international NGOs to test experimental drugs on Indians has landed before a Constitution Bench of the Supreme Court.

What happened?

- In 2009, a prominent international NGO had launched a \$3.6 million **human papillomavirus (HPV) trial** in India and tested two vaccines on 16,000 tribal girls in A.P. and Gujarat, apparently without informed consent from the girls' parents.

- After allegations were made that the girls had suffered adverse effects, the 72nd Parliamentary Standing Committee Report, **implicated the DCGI** for licensing the vaccines without adequate research on safety and efficacy; **the Health Ministry** for not questioning violations in the licensing process; **the ICMR** for promoting a drug even before it was approved and **the NGO** for setting up a trial without following basic protocol.
- The committee found **commercial interests were influencing government policy**, and that authorities acted as willing facilitators to the foreign institutions.
- The committee recommended that henceforth, trials ought to be conducted only in the 330 medical colleges that have emergency facilities.
- It also sought an investigation into the illegal approval of drugs and of doctors who submitted 'ghost letters' recommending drugs for approval.
- The NGO and the drug companies involved have dismissed the allegations as baseless and oppose the court's reliance on the report.
- Because of a legal hurdle, the parliamentary report cannot even be looked at by the Supreme Court. Thus, the issue was referred to a Constitution Bench this week.

How serious the incident is?

- In 2005, an important change in the **Drugs and the Cosmetics Act** allowed phase II trials (where the efficacy and safety of an experimental drug is tested) for the first time in India.
- It allowed drugs discovered abroad by multinational pharma companies to be tested on Indians.
- But clinical trials in India have been accompanied by large-scale criminality as doctors, officials and pharma companies understand well enough that India is a cesspool of corruption where clearances can be had for a pittance.
- While there have been many cases since, the underbelly of India's clinical trial industry came to the spotlight in 2005 when 3,300 patients were subjected to 90 clinical trials that followed no protocols at a hospital in Madhya Pradesh.
- In American law, such violations automatically attract the criminal charge of battery. In India, the poor don't count at all.
- Clinical trials ought to be done under calibrated statutory regimes. But, despite several crimes of enormous proportion where the poor are tested as guinea pigs, nothing has ever been done.

9.2 ELECTRIC VEHICLES AND AUTO INDUSTRY

What is the issue?

The prospect of electric vehicles (EV) disrupting the automobile industry has led to both excitement and fear.

Why is the transition problematic to India?

- Some experts feel it is all doom and gloom for the incumbent auto original equipment manufacturers (OEMs) as EVs replace internal combustion engine (ICE) cars and create a change never seen before.
- They will suffer the same fate as the horse carriage manufacturers which OEM's replaced more than a hundred years ago.
- The transition from conventional to electric vehicles is of huge significance as globally the passenger vehicle industry has a turnover of \$1.8 trillion and volumes of 90 million.

- The sheer size of the revenues and profits at risk, and the multitude of players in the value chain affected are not trivial.
- From power semiconductor designers to cobalt miners and cathode manufacturers, the beneficiaries are numerous as are the losers.
- The reality is that automobiles are one of the few manufacturing sectors where India has had success.
- The country will export nearly 800,000 cars in 2017, a value of at least \$4 billion, with nearly 90 per cent localisation.
- In small cars, we are now a global manufacturing hub and added with it is our success in auto components, another \$4-5 billion of exports and global competitiveness.
- India is projected to be the third largest car market in the world by 2020, with domestic volumes over 4.5 million.
- Currently, we have component localisation of above 85 per cent, with the majority of the value addition in India.
- If the industry is moving to EVs, it undercut whatever manufacturing edge we have in this space.

What is the inevitability?

- The move towards EVs is inevitable as it a technology changing innovative product.
- The only question is timing and it is also driven by global warming concerns.
- Disruption has started at the high-end premium vehicles but will come down to the mass market eventually.
- The biggest issue is cost, as the battery of an EV is about \$17-18,000, compared to an ICE (engine, transmission and exhaust systems) of about \$5,000.
- This gap will narrow as the costs of batteries fall by about 20 per cent annually and more stringent emission and fuel efficiency norms raise the costs of conventional engines.
- Since EVs are faster, more fuel-efficient, easier to manufacture and with zero emission, once costs are similar the switchover should happen rapidly.
- The industry will see 10 per cent penetration in 2025 and 30 per cent by 2035.
- China will lead this transition followed by the European Union while Emerging Market (EM) countries will lag, given the lack of adequate charging infrastructure.
- As the OEMs lose control of the core technology, which are batteries, their ability to differentiate and earn reasonable margins will reduce.
- This will severely impact the component suppliers, specialists in engine and transmission components, or companies focused on fuel injection and exhaust systems.
- However, the industry has at least a decade to adjust.
- Even under the most bullish assumptions of EV adoption, global ICE vehicle volumes (including mild hybrids) will decline by only 0.75 per cent per annum between 2016 to 2026.
- This is due to rising ICE sales in the EM markets offset the rapid switch to EVs in the developed world.
- In 2016, China led the world in sales of EVs, driven by subsidies and forced government fleet purchases.

- It is going to create a national champion in batteries and is determined to close the gap with Korean and Japanese battery makers by 2020.
- India unfortunately has a very limited play in this technology disruption with no battery manufacturing plant.
- No attempt by any Indian company or the government to try and catch up.
- We missed the semiconductor, the smartphone, the polysilicon and the flat-panel technology waves.
- We cannot afford to miss another transition, and remain just an importer of critical enabling technologies of the future.
- The government will have to help leap this transition safely with a better strategy.

9.3 VIABILITIES OF NUCLEAR POWER

What is the issue?

The looming uncertainty about the nuclear power due to recent mishaps and changing global perception has caused much debate among world nations.

What are the issues with nuclear power?

- With increased change in global threat perception about nuclear power and other uncertainties have decreased the phase of expansion of nuclear power.
- Nuclear weapons have ceased to be viable as instruments of war because of the unpredictability of the consequences of a nuclear war.
- The theories of deterrence of nuclear stockpiles have also been discredited after 9/11 brought the most formidable nuclear power to its knees.
- Non-proliferation today, if any, is not on account of the Non-Proliferation Treaty (NPT), but on account of the futility of building nuclear arsenals.
- After Fukushima, nuclear power too is receding as a sensible component of the energy mix.
- One clean-up operation after an accident can demolish many years of technological advancement and hopes of having cheap power.

Why nuclear power still a flourishing?

- Former U.S. President Barack Obama's Prague speech had ignited cautious optimism that nuclear weapons would cease to be the anchor of security.
- But still the nuclear and disarmament industry still flourish.
- Rajiv Gandhi's United Nations Plan of Action for total elimination of nuclear weapons still remains a distant dream.
- The 'Global Zero' movement gained momentum, even as nuclear weapon powers continued investment in developing delivery systems and weapons.

Why needed non-proliferation?

- NPT enthusiasts have been disappointed because out of the three pillars of the treaty only one got emphasized.

- That is among non-proliferation, disarmament and nuclear energy for peaceful purposes non-proliferation, has got watered down and disarmament has become the priority.
- They also worry that dangerous technologies like enrichment are within the reach of the non-weapon states.
- In the context of Japan and South Korea debating acquisition of nuclear weapons, they feel that non-proliferation should be brought back to be the first priority of the NPT.
- The promotional function of the International Atomic Energy Agency (IAEA) is also a concern for them.
- The IAEA has already shifted its focus from nuclear power to nuclear security.
- In 1995, the NPT was made a perpetual treaty with no possibility of amendment.
- Now advocates of NPT emphasise non-proliferation to the exclusion of disarmament and nuclear energy promotion.
- The UN General Assembly held the first UN conference in more than 20 years on a global nuclear weapons ban, though the nuclear weapon powers did not join.
- More than 120 nations in October 2016 voted on a UN General Assembly resolution to convene the conference to negotiate a legally binding treaty.
- The treaty is to prohibit nuclear weapons, leading to their total elimination.
- Britain, France, Russia and the U.S. voted no, while China, India and Pakistan abstained.
- Though India had recommended the convening of such a conference, it abstained on the resolution.
- India said that it supported the commencement of negotiations in the Conference on Disarmament on a comprehensive Nuclear Weapons Convention, which in addition to prohibition and elimination also includes verification.
- The conference has failed even before it commenced.

What is the issue with nuclear power production?

- Due to Fukushima disaster many countries that had lined up before the IAEA for nuclear technology for peaceful purposes quietly switched to other sources of energy.
- Except for China, India and Russia, most nations have shied away from building nuclear reactors or importing them.
- India's liability law deterred U.S. companies from exporting reactors to India.
- The financial problems of Westinghouse, which had agreed to build six reactors in Andhra Pradesh, postponed, if not cancelled, the venture.
- But India has not fundamentally changed its three-stage nuclear power development, though the thorium stage eludes it.
- The need for reduction of greenhouse gases was an incentive to increase nuclear power production.
- With India set to attain increased renewable energy to 40 percent of the total energy production by 2030, nuclear power is a key to attain this large quantum.
- President Trump's challenge to concept of climate change as a hoax and the consequent reduction of allocation of funds to protect the environment will further reduce the accent on nuclear power.

- As a result the Kudankulam project is set to move along with Russian collaboration, but its progress has been slow.
- The nuclear liability law, the Westinghouse bankruptcy and the protests by local people have combined to delay the expansion of nuclear power in India.

9.4 SUSTAINABLE PROGRESS THROUGH APPLICATION OF RESEARCH AND KNOWLEDGE

Why in news?

- Earlier in 2017, top administrators in Indian science submitted a detailed project report to Prime Minister Narendra Modi.
- It has reviewed portions of the 48-page report, titled **Vigyan 2030: Science and Technology as the Pivot for Jobs, Opportunities and National Transformation**.

What did the report say?

- The report said that the stature of Indian science is a shadow of what it used to be because of decades of **misguided interventions**.
- We have lost self-confidence and ambition and the ability to recognise excellence amongst our own and we often chose the mediocre at every level.
- One of its key recommendations is to have **an independent science and technology authority** that will have two parallel arms.
- **SPARK** (Sustainable Progress through Application of Research and Knowledge), as the body is tentatively named, will be overarching yet have “light touch” governance.
- **A discovery arm:** that can organise the expertise of various organisations across states and regions to solve a basic research problem.
- **A delivery arm:** that will closely work with industry and evolve public private partnerships.
- Such an authority will directly report to the Prime Minister.

What are the concerns/challenges?

- All very good, except that India **already has bodies that were conceived as umbrella organisations** that can pool the intellectual and technological resources of organisations and direct them towards specific missions.
- **The Principal Scientific Adviser** to the Government of India is one such office.
- Though they have no dearth of eminent, experienced scientists, they haven't substantially vaulted S&T in the country either.
- The CSIR faces its own challenges of effectively translating its know-how. Scientific departments in India, have bureaucracies of their own.
- They battle the dilemma of having to take bold, expensive risks that science by its very nature requires and on the other hand, **be accountable to the Finance Ministry**.
- Not only does a new overarching body run the risk of upsetting someone but it will also be a challenge to exert solemn authority without being a cantankerous accountant.

- It has to ensure that good ideas beyond the Indian Institutes of Technology and Science don't die out for **lack of funds or recommendations** from influential scientists.
- Any new idea, to rejuvenate the administration of science, must also ensure continuity.
- A change of government and new leaders has frequently meant 'new priorities' and the **infant-death syndrome for the bold experiment**.

9.5 INFLUENZA

What is Influenza?

- Influenza is an acute **viral infection of the respiratory tract** which is considered to be one of the life-threatening infectious diseases.
- The virus can be transmitted by direct contact with infected individuals, via contaminated objects (also called fomites) and by inhalation of virus-laden aerosols.
- An unexpected emergence of a new and highly virulent influenza virus strains can result in a world-wide pandemics with high morbidity and mortality – such as **the “avian flu” in 1997 and “swine flu” in 2009**.
- Human influenza viruses are **single-stranded RNA viruses**. The main targets of the virus are the columnar epithelial cells of the respiratory tract, i.e. trachea, bronchi and bronchioles.
- Infectivity of influenza virus particles depends on the pH, temperature and salinity of the water, as well as the UV irradiation.

What are the types of Influenza?

- Influenza is caused by three types of RNA viruses called influenza types A, B and C (considered different genera), which all belong to the family **Orthomyxoviridae**.
- The disease, colloquially called "flu" in humans, is generally caused by the viruses A and B.
- Subtypes of influenza A and B viruses can be further characterized into strains. There is a plethora of different strains of influenza B viruses and of influenza A subtypes, and new strains of influenza viruses can appear and replace older strains.
- Influenza type A viruses are known to infect people, birds, pigs, horses, whales, seals and other animals, but **wild birds represent the natural hosts** for these viruses.
- Only a fraction influenza A subtypes (i.e. **H1N1, H1N2 and H3N2**) are currently in general circulation among people.
- Influenza B viruses are responsible the same spectrum of disease as influenza A. And, **influenza B viruses do not cause pandemics**.
- Influenza C viruses are different in comparison to influenza A and B. They cause a mild respiratory illness and are **not thought to cause epidemics**.

Why have H1N1 cases shot up?

- The spread of influenza virus declines when the temperature shoots up.
- But this year, despite the summer temperature crossing 40 degrees Celsius in some parts of the country, the number of H1N1 cases and occasional deaths have not stopped.

- According to the WHO, since December 2016, **H1N1, H3N2 and Influenza B have been circulating in India.**
- During September 2016-February 2017, H3N2 has been predominant in most countries, with only “low levels” of the H1N1 viruses circulating in the northern hemisphere, says the WHO.
- H1N1 had claimed 160 lives in the country between January 1 and March 26, 2017. The highest number of deaths was reported from Maharashtra.

What are the steps to be taken?

- With over 32,000 people infected and nearly 2,000 killed in 2015, H1N1 highlighted **how ill-prepared the country was** in preventing the spread of an infectious disease and managing it.
- What India needs is a **national policy for influenza immunisation.**
- In the absence of information on who is most susceptible to H1N1 infection and very likely to die, framing a national policy will be harder and take a long time.
- But until a national policy for influenza immunisation is in place, individuals, particularly those who are highly vulnerable, should get vaccinated and practise safe health measures such as **correct cough etiquette** (not coughing into our fingers but at elbow), staying at home if infected, and not sharing towels with others.
- Healthcare workers who handle high-risk patients should particularly get vaccinated.

Is the circulating strain different?

- **The Pune-based National Institute of Virology** has sequenced the whole genome of H1N1 and **has not found any critical mutation** responsible for the spread or increased mortality.
- While the California strain had been circulating across the world since the 2009 pandemic.
- During 2016 **California strain and Michigan strain** were circulating in India.
- However, this year, the H1N1 surveillance revealed that the Michigan strain was circulating, with no sign of the California strain.

Can vaccination prevent infection?

- On March 2, the WHO flu vaccine advisory group recommended the composition of influenza virus vaccines for use in the 2017-18 northern hemisphere influenza season.
- It announced that the Michigan strain replaced the California strain in the northern hemisphere.
- Based on its recommendation, **the Pune-based Serum Institute of India** has started making influenza vaccine using the Michigan strain, but the vaccine is yet to reach the market.

10. ENVIRONMENT



10.1 RISING HEAT WAVES

What is the issue?

Heat waves are on the rise constantly across India.

What are heat waves?

- The India Meteorological Department (IMD) says the country is on an average 0.6 degree Celsius hotter than a century ago. 2016 was the warmest year since 1901.
- Heat waves are a sharply defined concept, as per Indian meteorology.
- Depending on whether a place's historical temperature is 40C or less, a 4.5C (or greater) rise in temperature counts as a 'heat wave' and 6.5C and more, a 'severe heat wave.'

| When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions | |
|---|---|
|  Heat Wave | (a) Based on Departure from normal |
| | Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C . |
| | Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$ |
| | (b). Based on Actual maximum temperature |
| | Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$. |
| | Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$ |
| (c). Criteria for heat wave for coastal stations | |
| When maximum temperature departure is $>4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$ | |
|  Warm Night | When maximum temperature remains 40°C |
| | Warm Night: When minimum temperature departure 4.5°C to 6.4°C . |
| | Severe Warm Night: When minimum temperature departure $>6.4^{\circ}\text{C}$. |

What's causing the spike?

- All statistics on heat waves listed above refer to trends between March and June, but there's no evidence that there are more heat waves in March as opposed to April or May.
- The general answer would be **global warming**, but 'how' isn't clear.
- Studies have linked an increase in heat waves to more increase in **El Nino events**, or years marked by an anomalous heating in the Central Pacific Ocean that's linked to a weakening of the Indian monsoon.
- Particularly, years succeeding an El Nino event are said to be linked to heat waves and mortality.
- Moreover, during eight of the 11 El Nino years (1961-2010), the all-India heat wave days were above what is normal.
- The **Indian Ocean temperatures** are also rising faster than the other oceans, and this, too, may be reducing moisture over the Indian mainland, thus playing some part in longer stretches of hot days.
- **Deforestation, the heat-island effect, and industrial pollution** are also being blamed for exacerbating heat waves.
- According to the MET Department, **the presence of an anti-cyclonic circulation over south Pakistan and neighbouring regions** is the reason behind the hot winds prevailing over the entire northwest India.

What about geographical spread?

- Typically, heat waves are associated with the north and northwest of India and over coastal Andhra Pradesh, north Odisha and parts of West Bengal.
- However, there's been a slight increase in the number of regions in recent years, with more parts of the Himalayan plains, regions north of Andhra Pradesh and Central India also registering more heat waves.
- This year, the maximum spikes in temperatures, in May, were recorded in unconventional places such as Shimla, Kullu and tourist spots in Uttarakhand.

How do heat waves affect us?

- The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke. The signs and symptoms are as follows:
- **Heat Cramps:** Edema (swelling) and Syncope (Fainting) generally accompanied by fever below 39°C i.e. 102°F.
- **Heat Exhaustion:** Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
- **Heat Stroke:** Body temperatures of 40°C i.e. 104°F or more along with delirium, seizures or coma. This is a potential fatal condition.
- Heat waves killed 1,422 in Andhra Pradesh and 541 in Telangana in 2015 or about 90% of all the heat wave mortality of that year.

10.2 AHMEDABAD HEAT ACTION PLAN

Why in news?

- The Ahmedabad's Heat Action Plan was unveiled in 2013.
- It has brought down heat wave linked deaths by up to 25%.

What was the condition in Ahmedabad?

- In May 2010, Ahmedabad witnessed heatwaves with record-breaking temperatures that took a toll of 4,462 lives.
- This was 1,344 deaths more than that in May 2009.
- So the Ahmedabad Municipal Corporation (AMC), public health experts and institutes, civil society groups and other stakeholders joined hands to prepare a **comprehensive Heat Action Plan (HAP) in 2013**.

What was the action plan about?

- The HAP's primary goal was to create public awareness about extreme climates and necessary steps to tackle it and save lives.
- It involves -
 1. Community outreach initiatives,
 2. Putting an early warning system to provide a seven-day advance forecast
 3. Capacity-building of health-care professionals to treat people with heat-related complications.
- A nodal officer coordinates with other agencies and groups to implement the plan in summer when temperatures go up to 48°C.
- Once the HAP is activated, the AMC issues colour-coded alerts or heat warnings based on weather forecasts.
- e.g A Yellow alert is issued when the temperature is expected to range from 41.1°C to 43°C, Orange alert indicates a range of 43.1°C-44.9°C. The red alert signifies extreme heat upwards of 45°C.
- Other actions envisaged in the plan include **stocking ice packs in hospitals and health centres**, extra water supplies in the vulnerable areas, opening drinking water centres, **running fountains and water**

sprinklers at crossroads and altering school and college timings to ensure that children don't venture out during peak heat.

- The mortality has come down 20-25% with the implementation of the HAP.
- Following this civic bodies in Nagpur and Bhubaneswar have also launched a similar initiative.

10.3 ELEPHANT CENSUS

Why in news?

Four States — Odisha, West Bengal, Chhattisgarh and Jharkhand which comprise India's most human-elephant conflict-prone region, have **decided to count elephants synchronously**.

Why this census is significant?

- This will be the first regional synchronous elephant census with an identical set of rules for direct and indirect counting methods.
- The **direct elephant counting method** is based on sightings of elephants.
- In the **indirect method**, surveyors follow a **dung decay formula** for arriving at population estimation which is being used by Tamil Nadu and Karnataka at present.
- A variation of about 8% to 9% has been noticed between the two methods.

What are the advantages of synchronised census?

- According to the 2015 census, Odisha has 1,954 elephants, while Jharkhand, Chhattisgarh and West Bengal have approximately 700, 275 and 130 elephants respectively.
- The synchronised census will indicate the size, distribution, structure and density of the elephant population in the region.
- A simultaneously conducted census would **eliminate underestimation, duplication**.
- This approach helps to produce a good map on the distribution of elephants in different landscapes, highlighting the abundance and density of elephants.
- Synchronisation in the elephant census will lead to **better regional planning**.
- Elephants travel long distances and an exhaustive information base on regional elephant distribution will help plan a proper intervention for their conservation in the long run.
- The Union Ministry of Environment, Forest and Climate Change has set up a committee that is trying to prepare a strategic action plan for the region.

10.4 NEW SOLUTIONS TO AIR POLLUTION

What is the issue?

Solutions such as introduction of **Hot lanes and Toll differential system** are being debated to control air pollution.

Is the air pollution under control?

- The odd-even (licence number) scheme undertaken by the government during the first half of 2016 was one of the most ambitious.
- However, despite the initiative, general air pollution in the city, which is measured by PM_{2.5} rose by 15% and 23% during the first and second phase of the odd-even rule, respectively.
- This raises some important concerns regarding the current policy on tackling air pollution.

What are HOT lanes?

- A high-occupancy toll lane (or HOT lane) is a type of traffic lane or roadway that is available to high-occupancy vehicles and other exempt vehicles without charge.
- Other vehicles are required to pay a variable fee that is adjusted in response to demand.
- While this was pioneered in the U.S. in 1969, its effective implementation in other countries such as China and Indonesia has **encouraged millions of commuters to opt for car-sharing** as it ensured them a speedier and less costly journey.
- In India, however, such an idea is still far from being imagined. Ex. In Delhi, there exists no policy in relation to car-pooling till date.
- Critics highlight that given India's **peculiar disregard for lane-driving**, the implementation of HOT or HOV lanes seems to be a long shot.
- However, the effective implementation of HOT lanes can provide significant incentive to fostering a more disciplined driving culture.

What could be done?

- Its implementation would require important considerations like,
 - whether it should be enforced during particular hours, or
 - whether the minimum number of passengers required to avail of the benefit should be two or more, or
 - whether HOT lane commuters will pay a lower road toll or will be completely exempt from it, to name a few.
- However if we impose **significant fines on violators on HOT lanes** and strictly monitor the policy by first applying it to limited areas, the results are bound to reduce air pollution by **incentivising passengers to carpool**.
- Also, in India, where most cars carry two-three people on average, it is perhaps preferred to dedicate such HOT or HOV lanes to cars carrying more than three occupants.
- Completely exempting these lanes from toll or substantially reducing the toll levied on them in relation to other lanes would provide significant incentive to the commuter.

What is the way ahead?

- A **toll differential system** based on the number of car occupants and on the latest pollution check of the vehicle is the need of the hour.
- The government should introduce a **differential toll treatment** for less polluting and higher occupancy vehicles.

- Moreover, electric cars or battery electric vehicles should be completely exempt from the toll.
- This will not only incentivise people to regularly check their vehicle's pollution, but will also help reduce air pollution.

10.5 COMBATING CLIMATE EXTREMES

What is the issue?

In early 2017, **unprecedented rates of glacier melts** have been reported both in the Antarctic and the Arctic.

What had happened in the past?

- The earth has enjoyed a more or less stable temperature for the last 10,000 years.
- Prior to that there were several ice ages and periods of warmer temperature, also known as **inter-glacials**.
- The ice ages are believed to have been caused **by small shifts in the earth's orbit**, but all the reasons for the temperature fluctuations observed are not yet entirely understood.
- During the Pliocene epoch, global sea levels were close to 30 metres higher than they are today, while average global temperatures were only about 3-4 degrees Celsius warmer.

What is happening in Antarctic at the moment?

- The Antarctic ice sheet is 14 million sq km in area and holds a large amount of frozen fresh water.
- If all the ice over the Antarctic were to melt, sea levels would rise by about 60 metres.
- Several media reports have covered the expanding rift or crack along the **Larsen C shelf** in the Antarctic, which is expected to break off at any time.
- Normally, ice shelves lose mass by the breaking off, or calving, of some of the portions and also by melting.
- When such large chunks break away from an ice shelf, **they speed up the collapse of the entire shelf**.
- Since this is attached to the rest of the glacier, these processes can increase the speed at which the glacier flows into the ocean.
- Thus, even though the Larsen C collapse by itself, **since it is in the water, will not raise sea levels**, it will hasten the melting of the glacier it is connected to.
- While the entire West Antarctic Ice Sheet may take a few hundred to a thousand years to completely melt, the process and **the resultant collapse are now recognised as unstoppable**.

What is happening in Arctic at the moment?

- In the Arctic, if all the ice in the Greenland ice sheet were to melt, it would raise global sea levels by about 7 metres.
- For the last several years, glaciologists have noticed that ice melt in the summer has increased and they say a lot of the recent melt has been due to increasing surface melt, and calving or breaking off of chunks of ice.
- **Soot and dust** carried by air from various places, bacteria and algal pigments in the meltwater, any other pigments in the glacier can all **reduce the reflection of the sunlight**, thus increasing the absorption of heat energy by the ice.

- This consequently increases ice melt, which then absorbs more solar radiation, thus **accelerating a feedback process**.
- The meltwater flows into deep shafts, or moulins, that then **speed up the flow of the glacier**.
- Also, temperatures in Northern Greenland have been much warmer and in fact, surface melt has doubled Greenland's contribution to sea level rise over the period 1992-2011.
- Carbon dioxide concentrations have crossed 400 ppm in the atmosphere and are the highest they have been in the past 4,00,000 years.

How vulnerable is India?

- Protecting the coast is an expensive undertaking and even then dikes, sea walls and similar structures provide only partial protection, based on studies undertaken by the **Dutch Delta Committee**.
- For India, **the east coast**, especially certain low-lying districts, are extremely vulnerable to intensive storms, which then lead to flooding, salt-water intrusion, and loss of land and livelihoods.
- **On the west coast**, while there are generally fewer storms, the concern is coastal erosion and flooding from sea level rise.
- The discussion regarding sea level rise and potential coastal impacts needs also to be understood not just as a coastal phenomenon, but also as an **issue that ripples through the entire economy**.
- Flooding in Chennai two years back did not affect just the land, but went through the economy as a whole and a reinsurance company, has estimated losses to be \$2.2 billion.

What is the way forward?

- Thus, enforcing the coastal regulation zone, protecting vulnerable districts and vulnerable communities which rely on ecosystems and the sea for their livelihoods are areas that need strengthening.
- **Regional agreements related to refugees from climate effects** need to be initiated.
- As a country which has generally been open to refugees, initiating and taking forward the conversation on regional planning for extreme events such as sea level rise would be important for India.

10.6 AEROSOLS

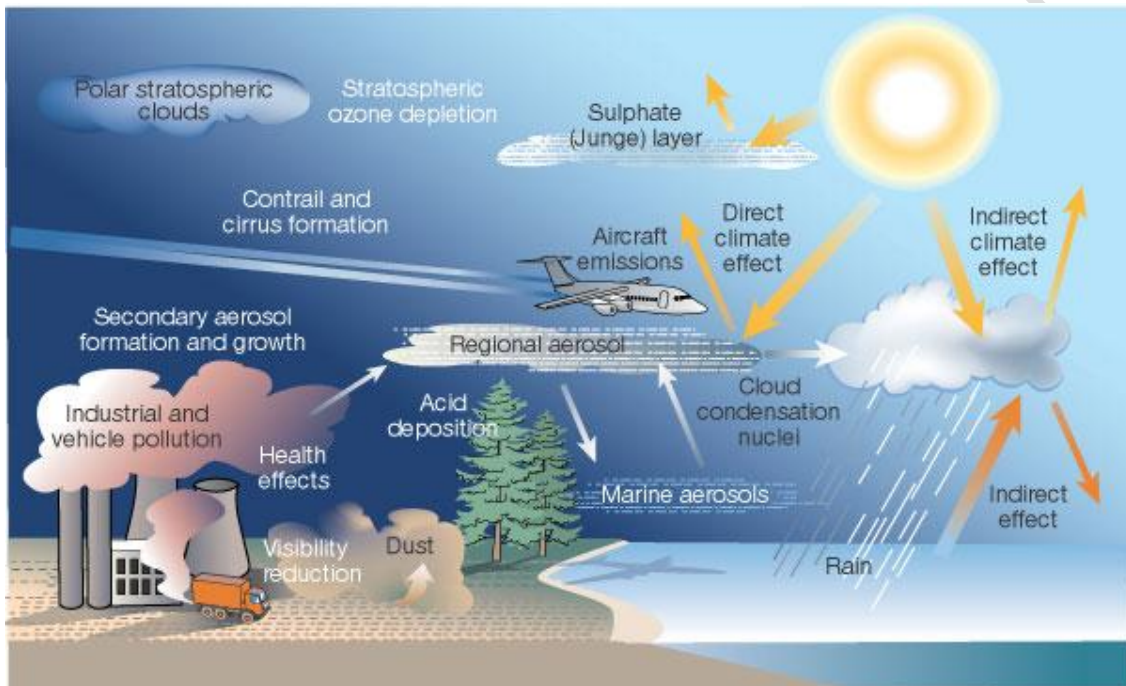
Why in news?

Contrary to the general notion that pre-monsoon aerosol loading results in decrease in seasonal rainfall, a long-term (2002-2013) satellite observational study and model-based analysis by IIT Kanpur has found that **higher aerosol loading results in delayed but more rainfall** over Central and Northern India.

What is an Aerosol?

- Aerosols are minute particles suspended in the atmosphere.
- When these particles are sufficiently large, we notice their presence as they scatter and absorb sunlight. Their scattering of sunlight can reduce visibility (haze) and redden sunrises and sunsets.
- Aerosols are **short-lived**, unlike greenhouse gases that persist and accumulate in the atmosphere for longer period.

- The bulk of aerosols—**about 90% by mass—have natural origins**. Volcanoes, for example, eject huge columns of ash into the air, as well as sulfur dioxide and other gases, yielding sulfates.
- The remaining 10% of aerosols are considered anthropogenic, or human-made, and they come from a variety of sources.
- **Automobiles, incinerators, smelters, and power plants** are prolific producers of sulfates, nitrates, black carbon, and other particles.
- Deforestation, overgrazing, drought, and excessive irrigation can alter the land surface, increasing the rate at which dust aerosols enter the atmosphere. Even indoors, cigarettes, cooking stoves, fireplaces, and candles are sources of aerosols.



What are the direct effects of Aerosols?

- Aerosols interact both directly and indirectly with the Earth's radiation budget and climate.
- Different aerosols scatter or **absorb sunlight to varying degrees**, depending on their physical properties. Although most aerosols reflect sunlight, some also absorb it.
- An aerosol's effect on light depends primarily on the composition and color of the particles.
- **Pure sulfates and nitrates** reflect nearly all radiation they encounter, cooling the atmosphere. **Black carbon**, in contrast, absorbs radiation readily, warming the atmosphere but also shading the surface.
- **Brown carbon** or organic matter, has a warming influence on the atmosphere depending on the brightness of the underlying ground. **Salt** particles tend to reflect all the sunlight they encounter.
- In addition to scattering or absorbing radiation, **aerosols can alter the reflectivity, or albedo**, of the planet.
- In the Arctic, aerosols from wildfires and industrial pollution are likely **hastening the melting of ice**.

What are the indirect effects of Aerosols?

- As an indirect effect, aerosols in the lower atmosphere can **modify the size of cloud particles**, changing how the clouds reflect and absorb sunlight, thereby affecting the Earth's energy budget.

- Aerosols also can act as sites for chemical reactions to take place.
- The most significant of these reactions are those that **lead to the destruction of stratospheric ozone.**
- On a global scale, these aerosol “indirect effects” typically work in opposition to greenhouse gases and cause cooling.
- Broadly speaking, aerosols are thought to suppress precipitation because the particles decrease the size of water droplets in clouds.

What did the IIT Kanpur study say?

- It said Satellite data showed that **clouds are getting taller and wider under high aerosol loading.**
- As the height of clouds increases, the ice particles generated at top of the cloud come in contact with numerous water and ice particles and become bigger in size.
- This results in more ice mass in the cloud and **eventually more rainfall** when the ice particles fall down due to gravity.
- In the absence of cloud, aerosol particles tend to absorb solar radiation and this leads to warming or less decrease in temperature with height.
- As a result, there is suppression of convection leading to further suppression of cloud formation.
- Till now scientists have shown that presence of more aerosol in pre-monsoon season may lead to reduction in total monsoon rainfall due to aerosol-solar radiation interactions.
- But in the recent study revealed that higher aerosol loading can enhance the strength of convective rainfall and increase the frequency and intensity of extreme rainfall during Indian summer monsoon.

10.7 GEO-ENGINEERING

Why in news?

For the third year in a row, 2016 set a record for the highest global average surface temperatures. The global mean surface temperature is now 1.1 degrees celsius above pre-industrial levels.

What are the impacts of CO₂?

- Carbon dioxide in the atmosphere — above 400 parts per million and it will stay there for a long time.
- The impacts are likely to be severe. Like rising sea levels; heat and water stress affecting health, mortality, agricultural yields and industrial output; and billions of dollars of damage to infrastructure.

Can geo-engineering be the solution?

- Geo-Engineering is defined as **the deliberate large-scale intervention in earth’s climate system, to limit adverse global warming.**
- **Solar geo-engineering was mentioned in the first report on climate change to President Lyndon Johnson in 1965,** and was discussed in reports of the US National Research Council (NRC) in 1977, 1983 and 1992.
- The case rests on two arguments: To limit climate risks, net emissions must fall to zero; and cutting emissions does not eliminate risks because of gases already in the atmosphere.

- One category of technologies, i.e., carbon dioxide removal to reduce atmospheric concentrations includes bio-energy with carbon capture and storage, direct air capture, and **ocean fertilisation** (adding nutrients to stimulate marine food production to absorb CO₂).
- The other category is **solar radiation management**, or solar geo-engineering, to reflect sunlight and reduce the amount of infrared radiation getting trapped by greenhouse gases.
- Proposed technologies include **brightening marine clouds, and deploying space mirrors**. But the most discussed is injecting the stratosphere with reflective sulphate aerosols.

What are the forums for international governance?

- In 2010, the Convention on Biological Diversity imposed an unenforceable moratorium on geo-engineering experiments. **No other international rules exist**. But several forums could be relevant.
- **Applicable to all geo-engineering methods:** UNFCCC; the dormant UN Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques.
- **To specific methods:** Montreal Protocol; MARPOL 73/78; UN Outer Space Treaties.
- **To specific substances:** Convention on Long Range Transboundary Air Pollution; International Maritime Organization.
- **To specific geographies:** Antarctic Treaty System; UN Convention on the Law of the Sea.
- In 2017, **the Carnegie Climate Geo-engineering Governance Initiative** was launched, to initiate dialogue and develop governance frameworks.

What should India do?

- First, the Department of Science and Technology should assess ongoing research in India and elsewhere, and identify uncertainties relevant for India (impact on monsoons, for instance).
- Second, Indian universities and think-tanks should collaborate to develop governance templates (for laboratory research, field experiments, and large-scale deployment) and test their applicability and legitimacy.
- Third, India should call for all national geo-engineering research programmes to voluntarily report to an international forum.
- Fourth, it could consider joining an international research programme, taking account of research capacities, funding mechanisms, liability rules, and intellectual property.

What is the way ahead?

- Scientific research, transparency, public engagement, and the application of the precautionary principle must go hand-in-hand.
- An inclusive approach to understanding ethical, legal, moral, political, and technological concerns is needed. India must add its voice to the conversation.

10.8 NTCA ORDER

What is the issue?

The National Tiger Conservation Authority (NTCA) recently ordered that **there would be no tribal rights** under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA) in critical tiger habitats.

Does it contradict the earlier stance of Government?

- Both the 'Guidance document for preparation of tiger conservation plan' and the Protocol/guidelines for voluntary village relocation in notified core/critical tiger habitats of tiger reserves' issued by the Environment Ministry acknowledge that although there is a need to keep forest reserves as inviolate for the purposes of tiger conservation, **this ought to be done without affecting the rights of traditional forest dwellers.**
- The NTCA and the relevant expert committee constituted to ensure tiger conservation under the **Wildlife Protection Act, 1972 (WPA)** have a mandate to ensure conservation along with human coexistence.

Can the tribal rights be compromised?

- Compromises on the rights of Tribals can be made only where there is proof that the tribal/right holder's presence in these protected areas will create irreversible damage to their ecology.
- While on paper the process adopted or recommended for creation and maintenance of critical tiger habitats appears fairly just, in effect its functioning is arbitrary.
- Neither the FRA nor the WPA has ever made a case for circumscribing the rights of Tribals in the name of environmental protection.
- Yet this takes place as the practice of conservation is predicated on **exclusionary logic.**
- Even in the face of significant evidence that Tribals have helped in increasing the tiger population, whether the **Soligas** in the BRT Tiger reserve in Karnataka or the **Baigas** in the Kanha National Park in M.P. (in photo), they have been periodically evicted, even as corporations and developmental projects are given a free hand to generate an environmental crisis on an unprecedented scale.

What do the data say?

- According to the **Global Environmental Justice Atlas data of 2016**, India registered the highest number of environment-related conflicts (222) in proportion to the population.
- It is thus necessary for civil society and peoples' collectives to forge an alliance to **prevent dissociating indigenous communities** from the environmental conservation narrative.
- Strengthening the FRA and eliminating instances that marginalise people in the name of conservation will require greater policy attention.

11. INTERNAL SECURITY

11.1 AILING INDIA NAVY

What is the issue?

India's navy is beginning to see the end product of decades of confusion and a continuing neglect of strategic planning.

How vulnerable is India's Navy?

- With the decommissioning of INS Viraat, India is down to a single aircraft carrier.
- Meanwhile, the People's Liberation Army (Navy) of China will soon have two of these, its existing Liaoning, and the Shandong, which is to be officially launched shortly.
- China, which already outclasses India in terms of the number of its submarines, will soon have more aircraft carriers, too.

- China has clearly learned from India's worrisome carrier-first strategy, which had cost India very dearly.
- Recently, the Navy indicated that the indigenous light combat aircraft, Tejas, was not suitable for carriers because it was "too heavy".
- But the MiG-29s which Indian carrier's house is known to be problematic and unreliable.
- India also overpaid Russia for INS Vikramaditya; and INS Vikrant is eight years behind schedule.
- It will only be fully operational by 2023 when it was supposed to be completed by 2015.
- It has been reported that the Indian Navy nevertheless intends to commission INS Vikrant by 2018 without its "aviation complex", or flight operations control.
- It might not even have LR-SAM anti-ship missiles at that point.
- Launching an aircraft carrier without crucial offensive or defensive weaponry is a truly mystifying decision.
- Two new Scorpene submarines INS Kalvari and INS Khandari made in Mazagon Docks are to be launched this year.
- Both are undergoing sea tests, but they have essentially no anti-sub torpedoes, since the Black Shark systems they were supposed to be fitted by an Italian conglomerate has been blacklisted.
- The fate of the 98 Black Sharks to be bought continues to be uncertain.
- The Scorpene's essential data was reportedly leaked last year that may make them easier to identify adds more worries.
- It is also being reported that none of the six Scorpene's planned will have air-independent propulsion, which extends endurance.
- The last two were supposed to have it, but DRDO, missed its deadline for integration.
- The level of the crisis should be clear from the fact that India has only 13 conventional submarines in service, of which 11 are older than 25 years.
- As for nuclear submarines, India is living essentially on loans from Russia; the Akula II-class INS Chakra is leased for 10 years, till 2022.
- China may have about 70 submarines, as compared to India's 15; but India's fleet is short even of anti-submarine helicopters.
- Over two dozen ships have only 26 obsolete medium multi-role helicopters.
- The light utility helicopters, Chetaks, also need to be replaced in their dozens.
- INS Kolkata was commissioned in 2014 without Barak-8 air defence missiles and towed array sonars.
- Fixing these gaps is not just a question of money, but also of careful thought and planning.
- But clearly this is not a priority for the government – after all, there isn't even a full-time defence minister.

11.2 ATTACK ON CRPF PERSONNEL

Why in news?

The disaster at Sukma, where 25 CRPF jawans lost their lives, represents multiple failures at different levels.

What went wrong?

- It is inexplicable that the **post of Director General of the CRPF should have been kept vacant** for more than 50 days. And this absence creates a sense of uncertainty in the ranks.
- It is also incomprehensible that there is **no clarity yet about the strategic approach** to the Maoist problem, even though the Indian state has been battling it for the last 50 years.
- In 2006, a **14-point policy** was announced which talked of addressing the problem simultaneously “on political, security and development fronts”.
- The policy, however, never got implemented on the ground.
- During UPA rule, P. Chidambaram, summarised government policy in three graphic words in 2009: “**Clear, hold and develop**”, and was executed by a **massive deployment** of the Central forces in the affected regions.
- But, his approach was, not shared by everyone in the Congress. As a result, the security forces felt hamstrung in their operations.
- In the **absence of any clear-cut guidelines** or directions from the Central government, every state government has been dealing with the problem as per its own assessment of the situation.
- The 74 Battalion personnel also seem to have made **serious tactical mistakes**.
- It shows, the CRPF in Sukma appeared to be lacking in the required level of training and leadership.
- It is said the CRPF personnel were attacked by about 300 Maoist guerrillas. Obviously, they must have been in the area for a couple of days.
- How did the **local administration and intelligence have no scent of their presence?** This intelligence vacuum is inexcusable.

What are the concerns?

- Chhattisgarh has witnessed the highest level of Maoist violence in the country.
- But, it has **not extended the kind of support** it should have to the Central armed police forces, which often, are left to fend for themselves.
- In the Sukma incident, 25 CRPF personnel were martyred, but there is no information yet about injuries to state police personnel. Either they were not there or were in very small numbers.
- Chhattisgarh, also, has been **sluggish in building the capacities of its police forces**.
- There are about **10,000 vacancies** in different ranks in the state police. Twenty-three sanctioned police stations have yet to be set up. And, there are 14 police stations without any telephone link.
- A fundamental flaw in the anti-Maoist operations in state today is that they are heavily dependent on the Central government.

- The mindset seems to be that Maoism is the government of India's problem and, therefore, the Central forces should bear the brunt of extremist violence.
- The great **lesson we learnt in Punjab** was that until the state police makes a frontal attack on the terrorists/Maoists, the battle would never be won.

What must be the response?

- Centre's response must be to **double down to extend the presence of the administration** in Bastar, to break the isolation and reach social services to the people.
- There is also a need to **boost the morale of the security and police forces.**
- The recent spate of attacks and ambushes indicates a breakdown in intelligence-gathering, possibly on account of a **lack of effective coordination** between the State police and paramilitary forces.
- The inadequacies are more grave than the administrative oversight.
- The Centre needs to urgently put in place, in mission mode, measures to **strengthen, expand and arm the State police**, most of all in Chhattisgarh.
- Also, state govts must realise that it is their battle. They have to lead and the Central forces are to play only a supportive role.
- This needs the State governments to show far more political will to persuade local communities than they currently do.
- The Maoists long ago lost the argument with their murderous ways. But, the political and civil establishment is yet to win that argument by addressing the people's security and welfare needs, and their concerns about extractive state policies.

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PRELIM BITS CONSOLIDATION

12. ART AND CULTURE

Puppetry in Karnataka

- **Togalu Gombeyaata** is a puppet show unique to the state of Karnataka
- It is a play of leather dolls in the native language of Kannada and it is a form of shadow puppetry.

Channakeshava temple

- The Channakeshava temple is located in Belur, Karnataka.
- It is considered to be the first temple of Hoysala architecture style.
- It was built between 1106 and 1117 by Vishnuvardhana, a King of Hoysala dynasty and it turned 900 this year.
- The temple marks the victory of Gangaraja, a general in Vishnuvardhana's army, over the invading Chola army in 1104.
- This, along with the temple in Halebid, is proposed as a UNESCO heritage site.

Yakshagana

- It is a traditional theatre form that combines dance, music, dialogue, costume, make-up, and stage techniques with a unique style and form.
- This theatre style is mainly found coastal region of Karnataka.
- Yakshagana is traditionally presented from dusk to dawn.
- Yakshagana poetry is a collection of poems written to form a music drama and it is also called as "Prasanga".
- Tenkutittu (includes Kerala), Badagutittu, Uttara Kannadatittu are the traditional variants of Yakshagana.

Padayani

- Padyani festival was recently observed in Kerala.
- It is a traditional ceremonial folk dance involving masks and it is an ancient ritual performed in Bhagavati temples.
- Padayani is an art form that blends music, dance, theatre, satire, facial masks, and paintings.
- It is believed that it is evolved from a symbolic past reminiscent of **martial art Kalari**.
- Padayani is unique to central Travancore, comprising the Pathanamthitta district of Kerala.

Tiger Dance or Bagha Nacha

- The biennial Thakurani Jatra festival of Berhampur, **Odisha** showcases the famous tiger dance or 'Bagha Nacha'.

- During the **21-day-long** Thakurani Jatra festival, several people, including children, get their whole body painted like a tiger as homage to Goddess Budhi Thakurani.

National Tribal and North East Art Conclave

- The conclave is organized by Lalit Kala Akademy under Ministry of Culture.
- It is a unique artistic event representing the important schools of Indian tribal art, alongside other art genres.
- The conclave platform features different forms of tribal art such as Cherial painters from Telangana, Patachitra art from Odisha, fresco paintings from Rajasthan, Bhil, Mina works and Paintings on leather by artists from Andhra Pradesh.

13. HISTORY

Azad Hind Yatra

- Azad Hind Yatra is organised to mark 75 years of the Azad Hind Fauj or the Indian National Army (INA). The yatra will commence from July 2017.
- The army was first formed in 1942 under Mohan Singh, by Indian Prisoners of Wars of the British-Indian Army captured by Japan in the Malayan campaign and headquartered at Singapore.
- It was later revived under the leadership of Subhas Chandra Bose after his arrival in Southeast Asia in 1943.
- S.C. Bose incorporated Azad Hind Fauj as the army unit of his provisional government and became head of INA in 1943 in Tokyo.
- In 1944, after the first attack by INA on the British, the head of Japanese forces handed over Andaman and Nicobar islands to Azad Hind Fauj.
- It was on these islands that Netaji had first hoisted the flag of India, as the head of the state of free India.

Paika Rebellion

- It was an armed rebellion against the British East India Company's rule in Odisha in 1817.
- The Paiks were the traditional landed militia of Khurda, Odisha.
- They rose in rebellion under their leader Bakshi Jagabandhu as the British took over the hereditary rent-free lands granted to them for their military service to the Kingdom of Khurda.
- Descendants of 16 families associated with the rebellion will be felicitated by the Prime Minister on the mark of 200th anniversary.

Muhammad Quli Qutb Shah

- He was the fifth sultan of the Qutb Shahi dynasty of Golkonda.
- He founded the city of Hyderabad and built the Charminar.
- He was a scholar of Arabic, Persian and Telugu languages.
- During his rule, relations between Hindus and Muslims were strengthened and some Hindus rose to prominence in the Qutb Shahi state, the most important example being the ministers Madanna and Akkanna.

International Basava Convention

- Basavanna was a 12th-century social reformer, Kannada poet, philosopher, statesman who served as the chief minister of Kalachuri dynasty ruled by King Bijjala.
- Recently Basava Jayanti was celebrated for the first time on his birth anniversary and digital version of his work “**Vachana**” was released.
- Vachana is a prosaic form well known in the Kannada literature which propagates values of universal brotherhood.
- Basavanna spread social awareness through his poetry and rejected gender or social discrimination, superstitions and rituals.
- Basavanna founded “Lingayatism”, a distinct shaivite religious tradition and spread by his followers Sharanas.
- Lingyatism emphasizes on monism and bhakti (loving devotion) to Shiva and lingyats are also called as Veerashaivas.
- Basava introduced a public institution called as “**Anubhava Mantapa**” - hall of spiritual experience that would facilitate men and women from all socio-economic backgrounds to have discussion on various spiritual questions.

Swachhagraha “Bapu Ko Karyanjali”

- It is a Mission, an exhibition to Mark 100th Anniversary of Champaran Satyagraha.

India's first Community Radio

- Sangam Radio, the first community radio in India, was launched in 2008.
- It continues its operation in Telangana and broadcast in Telugu language.
- The radio station was first established by an NGO - Deccan Development Society (DDS) and its transmission radius is about 30Km.

14. GEOGRAPHY

Khondalite Rocks

- Khondalite is a foliated metamorphic rock, named after the Khond tribe of Odisha and Andhra Pradesh.
- The rock is rich in Quartz, Manganese, Schist and Graphite and contains Feldspar in some cases. It is also called Bezwada Gneiss and Kailasa Gneiss.
- Khondalite, among the oldest rock varieties of the Eastern Ghats range is found between Vijayawada (A.P) and Cuttack (Odisha).
- These rocks were formed when the Eastern Ghats belt was faulted and buried. It was uplifted later, bringing these metamorphic rocks to the surface.
- The rock formation is found near the Thotlakonda Buddhist site in Vishakapatnam.

Definitions of various terms related to Indian Monsoon

- In India, the “average” rainfall or the long-period average (LPA) is the average of rainfall between 1951 and 2000, which is 89 cm.
- Normal Monsoon - percentage departure of realised rainfall is within $\pm 10\%$ of the Long Period Average.
- Below Normal Monsoon - percentage departure of realised rainfall is $< 10\%$ of the Long Period Average.
- Above Normal - Percentage departure of realised rainfall is $> 10\%$ of the Long Period Average.
- All India Drought Year - When the rainfall deficiency is more than 10% and when 20 to 40% of the country is under drought conditions, then the year is termed as All India Drought Year.
- All India Severe Drought Year - When the rainfall deficiency is more than 10% and when the spatial coverage of drought is more than 40% it is called as All India Severe Drought Year.

Flood risk in Himalayan region

- A new study has found that Earthquakes and landslides in the Himalayas lead to large volume of hard rocks being dumped into rivers can increase flood risk up to hundreds of kilometers downstream.
- They found that large landslides in the southern, lower elevation ranges of the Himalayas are more likely to increase flood risk than those in the high mountains further north.
- The rocks in the south are extremely hard and travel only a short distance less than 20 km to reach the Plain whereas rocks from the northerly region often travel at least 100 km to reach the plain.
- Rock in the south such as **quartzite** reaches plain as gravel or pebbles which can build up in rivers, altering the natural path of the water whereas rocks from the north region such as **limestone and gneiss** tends to be softer and gradually broken down and dispersed widely, thus reducing flood risk.

Chinnar River

- The Chinnar, east flowing river originates in the Annaimalai Hills in Idukki District, Kerala.
- The 18 km long chinnar river defines the East-West Tamil Nadu/Kerala state boundary along the northern edge of the chinnar Wildlife Sanctuary and the southern edge of the Indira Gandhi Wildlife Sanctuary.
- Recently, there was an illegal attempt to divert the water from Chinnar river to a dead stream “Mangayaar” in Tamil Nadu state by constructing a deep trench.
- This unscientific interlinking of Chinnar and Mangayaar would adversely affect the **Muthuvan tribal** settlement in the Chinnar Wildlife Sanctuary.



Vistadome Coach

- It is the new type of coach that runs between Vishakapatnam and Araku in A.P state.
- It has distinct features like the glass roof inside these new coaches which will allow the commuters to enjoy the outside view of journey to Araku Valley.
- Araku Valley is a hill station in the Eastern Ghats, known for its coffee.
- It is located close to A.P - Odisha border and surrounded by various mountains which are endowed with bauxite ores. One of the important mountains is Galikonda which is one of the highest in A.P.
- The nearest cave to Araku Valley is Borra cave.



First underwater metro tunnel

- The tunnel is constructed inside the bed of Hoogly River in West Bengal, the first under river tunnel in India.
- The two tunnels running parallel will connect the twin cities of Howrah and Kolkata located on either side of the Hooghly.
- The twin tunnels, about 520 metres long, are crucial to the East West Metro project that will connect the eastern part of Kolkata to the Howrah Maidan across the river.

Gazaldoba barrage

- India built a barrage at the Gazaldoba point on the Teesta.
- The then Bangladesh government did not raise its voice against this.
- Now they are facing the consequence of the barrage, as India closes all the gates of the Gazaldoba barrage during lean period.

Jawaharlal Nehru Port

- Jawaharlal Nehru Port, also known as Nhava Sheva, is the largest container port in India.
- It is located east of Mumbai in Maharashtra. The port is accessed via Thane Creek, where flamingo sanctuary is located.
- Recently, Jawaharlal Nehru Port Trust becomes first Major Port in India to install Radiological Detection Equipment (RDE) at Road and Rail Gates.

Cleanest port in India

- Under the 'Swachhta Pakhwada' campaign, Quality Council of India (QCI) has ranked all the major 13 ports on sanitation parameters.
- The Haldia port of West Bengal has emerged as the cleanest port in India and Vizag port of A.P bagged second rank.
- The ranking was based on the efforts made by these ports to address waste generating sources with respect to port operation, office area, township area and the response to incoming ships.

SAUNI Yojna

- Saurashtra Narmada Avatara Irrigation Yojna is a project to divert flood waters of Narmada to Saurashtra region and fill up the reservoirs through giant pipelines.
- There are two link canals through which the water is diverted. Link I takes water to Jamnagar and Dwarka districts and Link II to Botad, Bhavnagar and Amreli Districts.
- These two pipelines are designed to pump Narmada water in 17 identified dams in the regions such as Krushnasagar dam, Bhimdad dam (Botad), Bhogavo dam etc.
- SAUNI project targets to provide irrigation water for 10.22 lakh acres of land in Saurashtra region.

Rewa Mega Multi Power Project

- Rewa Mega Multi Power project is located in Madhya Pradesh.
- Upon completion of the project, it will become the "**world's largest single-site solar power project**".
- Recently, Power Purchase Agreement (PPA) is signed between Delhi Metro Railways Corporation (DMRC) & Madhya Pradesh Power Management Company (MPPMC) with Rewa Ultra Mega Solar Limited.
- Thus the Rewa UMSPP becomes the first power project to conduct interstate sale of solar power to Delhi Metro.
- Rewa PPA has been accepted by the central government as a standard model for all other state governments to emulate and achieve lowest electricity tariff rates through competitive bidding.
- The project also has financial assistance from **International Finance Corporation (IFC)**.

15. POLITY

Constitutional status to Backward Classes Commission

- Lok Sabha cleared the Constitution 102nd Amendment Bill that grants constitutional status to the Backward Classes Commission under the **article 338B**.
- The bill says that any addition to the central list of communities under the other Backward Classes will have to be cleared through the Parliament.
- It also seeks to insert a **new article 342A** that empowers the President to specify the communities which would fall under socially and educationally backward classes, for states and union territories, in consultation with the concerned governor.

- The new Commission will hear the grievances of socially and educationally backward classes, a function which has been discharged so far by the National Commission for Scheduled Castes.
- Presently, National Commission for Backward Classes is a statutory body under the Ministry of Social Justice and Empowerment and the power of enacting law in identifying the backward classes has been entrusted with the state government.

16. SOCIAL ISSUES

Education in India

- Kerala is the first state to achieve 100% primary education.
- Telangana is the first state to make gender education compulsory in schools.
- India's first Transgender School is located in Kochi, Kerala.
- Bihar is the first state to introduce third gender category in school exams after the SC notification in 2014.

"Women and Men in India 2016" report

- The report is released by Ministry of Statistics and Programme Implementation.
- According to the report, the mean age of women at the time of marriage in 21 major states was 22 years and 3 months in 2014. That figure was 25 years and 2 months for Jammu & Kashmir.
- According to the report, the average age of women at the time of marriage in rural India in 2014 was 21 years and 8 months, while that of women in urban India was 23 years and 2 months.
- It was the lowest for Jharkhand - 21 years.
- The report also highlighted that the average age of women improved from 18 years in 1991 to 22 years and 3 months in 2014, as the country witnessed economic development, education and literacy levels improved.
- While J&K has been historically progressive about not forcing women into early marriages.

MEAN AGE OF MARRIAGE FOR WOMEN

| YEAR | INDIA | J&K |
|------|-------|------|
| 1961 | 15.7 | 17.5 |
| 1971 | 16.7 | 20.1 |
| 1981 | 17.8 | 21.1 |
| 1991 | 18.7 | 21.0 |
| 2012 | 21.2 | 24.6 |
| 2014 | 22.3 | 25.2 |

| THE HIGHEST AND LOWEST, 2014 | |
|------------------------------|------|
| Jammu & Kashmir | 25.2 |
| Kerala | 23.8 |
| Jharkhand | 21.0 |

Read all figures as 'years.months', and not as arithmetic decimals.

Source: Ministry of Statistics and Programme Implementation

National Population Stabilisation fund

- It is an autonomous society under the Ministry of Health and Family Welfare.
- It has a one-time grant of Rs.100 crore given by the central government.
- There are two strategies under the fund to promote population stabilisation.
- Prerna – It is the award given to couples who had broken the stereotype of early marriage and early childbirth.
- Shantusht – It involves private sector gynaecologist and vasectomy surgeons to conduct operation in PPP mode.

17. GOVERNMENT NEW INITIATIVES

Skill University

- It is India's first vocational and education training centre **based on the Swiss Dual System**.
- The Rajasthan-ILD Skills University (RISU) was established through a Bill passed in the State Assembly.
- RISU will foster skill training and employability of youth under the National Skills Qualification Framework.

India's first book village

- Bhilar in Satara District, Maharashtra is India's first "Book of Village".
- The village Bhilar is located between the hill stations of Mahabaleshwar and Panchgani in Maharashtra.
- There will be 25 book hotspots in the village which are mini libraries having 15,000 books to be kept permanently for the public.
- The idea for this book village is inspired by Britain's popular Hay-on-Wye book village and literary festival concept.
- The village is known for strawberry cultivation and called as "Strawberry country" in Maharashtra.

Urja Mitra

- URJA MITRA App, which was launched recently by the Ministry of Power, empowers citizens by real time information sharing on power supply.
- The application provides a central platform, Web-Portal as well as Mobile App, for State Power Distribution utilities to disseminate power outage information to urban/rural power consumers across India through SMS/email/push notifications

India Rankings

- India Rankings were introduced in 2016 to rank universities in India.
- The ranking is based on National Institutional Ranking Framework (NIRF), (i.e) the parameters taken into consideration for India rankings is based on the parameters outlined under NIRF.
- NIRF was approved by **Ministry of Human Resource and Development** and the framework outlines a methodology to rank institutions across the country.
- The parameters broadly cover "Teaching, Learning and Resources," "Research and Professional Practices," "Graduation Outcomes," "Outreach and Inclusivity," and "Perception".
- Under India Rankings, there are also stream wise categories like Engineering, Management, Pharmacy, college besides overall ranking.
- This year, **Indian Institute of Science Bangalore** topped the overall ranking followed by Indian Institute of Technology Madras and Bombay.

Shodhganga

- It is the repository developed to contain an electronic copy of all M.Phil/Ph.D thesis to make it accessible to all institutions.
- The task of setting-up of this repository is assigned to Information and Library Network (INFLIBNET), an inter-university centre of the University Grants Commission (UGC).
- It also provides access to Indian theses and dissertations in open access to world-wide academic community and making visibility of Indian research to other countries.

Nakshe Portal

- A new web portal “nakshe” was launched by the Ministry for Science & Technology and Earth Sciences, on the occasion of 250th anniversary of Survey of India (SoI).
- Topographic maps containing natural and man-made geographical features including terrain or topography are prepared by the SoI and it is made available for free download from “nakshe” web portal.
- Survey of India is the oldest scientific department in India, created in 1767 and one of the oldest survey establishments in the world.

North East India's Largest IT hub

- Northeast India's sixth and largest Information Technology (IT) hub was inaugurated in **Tripura** to boost e-governance and to export software technology.
- The globally standard IT hub would provide much needed impetus to the upcoming IT and IT services based industries creating huge job opportunities.
- Tripura last year got the award from the central government for its performance in IT and e-governance.
- Many e-governance based facilities and services already extended up to gram panchayat level in Tripura.

SKYREV360

- Airports Authority of India launched SKYREV360 with international civil aviation body, IATA.
- SKYREV will offer comprehensive e-billing solution to data gathering, invoicing and collection providing additional revenue to AAI.

Gokul Grams

- Gokul grams are being established under the **Rashtriya Gokul Mission** scheme which will function as centres for the development and protection of Indigenous cattle breeds.
- The aim of these centres is to develop and conserve existing indigenous breeds recognised by National Bureau of Animal Genetic Resources. No new breeds are proposed to be developed at these centres.
- Funds released for implementation of Rashtriya Gokul Mission is a part of National Programme for Bovine Breeding and Dairy Development.

Cyber Physical System (CPS) Programme

- Department of Science and Technology has initiated a Cyber Physical Systems (CPS) Programme.

- CPS is an interdisciplinary field that deals with the deployment of computer-based systems that do things in the physical world.
- Smart grids, where electricity is optimally distributed on the basis of calculations in real time by micro-processors as well as autonomous unmanned vehicles and aircraft navigation systems qualify as 'cyber physical systems.'
- The thrust of the programme is to encourage greater synergy between the university scientists and industry by setting up centres of excellence in IITs and universities and dedicated courses on cyber physical systems.

Krishi Karman award

- Krishi Karman awards were instituted in the year 2010-11 to reward the best performing States for raising country's food grain production.
- It is given to States which have increased the production of food grains and individual crops of Rice, Wheat, Pulses and Coarse Cereals.
- There are 3 awards for the States with highest food grains production in 3 identified categories such as Category I (production > 10 million tonnes), Category II (production 1-10 million tonnes) and Category III (production < 1 million tonnes).
- There are separate five awards for highest production of Rice, Wheat, Pulses and Coarse Cereals.
- In addition to above awards, Commendation Awards were given to States which achieved production and productivity higher over their previous highest in 4/5 years, yet could not qualify for Krishi Karman Awards.
- This year, Tamil Nadu State has bagged the award for the production of food grains in the category I during 2015-16.
- The award is given by Department of Agriculture, Cooperation and Farmers' Welfare.

Kamala Awards

- The award is given by Crafts Council of India to a senior craftsperson for his/her contribution towards the development of traditional craft and the training of younger people in the skill.
- The recipient of 2017 Kamala Award is Shri. M.R. Ranganatha Rao from Karnataka for the revival of Karnataka's temple based craft of wooden puppets and string puppets.
- The Crafts Council of India (CCI) was founded in 1964 by Kamaladevi Chattopadhyay as one of her pioneering efforts toward protecting and enhancing India's heritage.
- The CCI is a registered not for profit Society head-quartered in Chennai.

Sahitya Akademi Award

- The English translation of writer Perumal Murugan's novel Mathorubhagan (One Part Woman) has won the Sahitya Akademi's award for translation in English.
- Sahitya Akademy award is conferred on the writers of outstanding of literary works published in any of the 24 Indian languages (including the 22 listed in the Eighth Schedule of the Indian Constitution, along with English and Rajasthani) recognised by the Akademy.

- Sahitya Akademi Award is the second highest honour conferred by the Sahitya akademi next to Sahitya akademi Fellowship.

e-Puraskar Award

- The award is given by Ministry of Panchayat Raj for bringing in transparency, efficiency and accountability in the functioning of Panchayats through ICT tools.
- Karnataka bagged the award for its Ganshi Sakshi Kayak GPS-enabled ICT tool.
- Kerala bagged the second prize, while West Bengal secured third prize in the category of ICT tools.

18. GOVERNMENT SCHEMES AND POLICIES

Rashtriya Vayoshri Yojana

- It is a scheme launched by Ministry of Social Justice and Empowerment.
- It is a scheme for providing physical aids and assisted-living devices for **Senior citizens belonging to BPL category**.
- The scheme will address disabilities like low vision, hearing impairment, loss of teeth and locomotor disability with such assisted living devices which can restore near normalcy in their bodily functions.
- The devices will be distributed in camp mode and will be implemented by 'Artificial Limbs Manufacturing Corporation (ALIMCO)', a Public Sector Undertaking under Ministry of Social Justice and Empowerment.
- This is a Central Sector Scheme, fully funded by the Central Government.
- The expenditure for implementation of the scheme will be met from the "Senior Citizens' Welfare Fund".
- Beneficiaries in each district will be identified by the State Governments/UT Administrations through a Committee chaired by the Deputy Commissioner/District Collector.

Mahatma Bunker Bima Yojana

- The Scheme is implemented by Ministry of Textiles.
- The objective of the scheme is to provide **insurance cover to handloom weavers** in case of natural death (Rs. 60,000/-), accidental death (Rs.1,50,000/-), total disability (Rs.1,50,000/-) and partial disability (Rs. 75,000/-).
- In addition to above, a scholarship of Rs.300/- per quarter per child is available to students studying in standards IX to XII. The benefit is restricted to two children of the member covered.

"Quality Mark" award scheme

- The National Dairy Development Board with the support of Department of Animal Husbandry, Dairying and Fisheries has initiated "Quality Mark" award scheme for **dairy cooperatives**.
- It is to promote and encourage enhancement of safety, quality and hygiene of milk and milk products manufactured by dairy cooperatives.

- It is aimed at bringing about process improvement in the entire value chain from producer to the consumer to ensure availability of safe and quality of milk and products both for the domestic and foreign market.

Ministry of Law and Justice

- Ministry of Law and Justice introduced, 3 new schemes to facilitate access justice aiming to connect those in need of legal aid with lawyers through use of technology.
- **‘Pro-bono legal services’** – It is a web based platform through which the interested lawyers can register themselves to volunteer services for litigants who are unable to afford it.
- **‘Tele-law service’** – It is aimed at facilitating delivery of legal advice through an expert panel of lawyers stationed at the State Legal Services Authorities (SLSA).
- The project would connect lawyers with clients through video conferencing facilities at CSCs.
- **Nyaya Mitra** - It is aimed at reducing pendency of cases across selected districts, with special focus on those pending for more than 10 years.
- A retired judicial officer, or an executive officer with judicial experience, will be put in charge of assisting those suffering due to judicial delays.

‘Junior Heritage Mistri’ Scheme

- The scheme comes under the **Centre’s Heritage Mason programme**.
- Rajasthan was chosen as a pilot State for the scheme in view of its rich architectural heritage.
- Rajasthan government is raising a new class of masons to help conserve the State's rich architectural heritage.
- Under the programme, the government has started training youths on indigenous building practices, arts and crafts, traditional structures and knowledge systems, with an emphasis on preservation of heritage architecture.

19. INDIA AND ITS NEIGHBOURHOOD

India-Bangladesh Friendship Bridge

- The bridge is constructed on the river Feni in Tripura State.
- The 150-metre bridge will connect Sabroom of India and Ramgarh in Bangladesh.
- Chittagong port is located 72 kilometre away from Sabroom. Thus this bridge would facilitate implementation of a protocol India earlier signed with Bangladesh to use Chittagong sea port as a ‘port of call’.
- This connectivity plan is to benefit Tripura and other landlocked northeastern States with international and domestic shipments using the sea port.
- **River Feni** – It is a transboundary river, originated in the state of Tripura and passes through sabroom town and finally enters into South Eastern border of Bangladesh.
- Muhuri is the tributary of Feni, which originates from Tripura and combines with feni near to the region of Bay of Bengal in Bangladesh.
- Muhuri River is also called as the Little Feni.

South Asia Subregional Economic Cooperation (SASEC) Program

- It was set up in 2001 including Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal and Sri Lanka.
- It brings together these countries in a project-based partnership to promote regional prosperity by improving cross-border connectivity, boosting trade among member countries, and strengthening regional economic cooperation.
- Asian Development Bank (ADB) serves as the Secretariat for the SASEC member countries.

BCIM Corridor

- The negotiations on the stalled Bangladesh-China-India-Myanmar Economic corridor are set to resume.
- BCIM corridor aims to connect Kolkata with Kunming, capital of the Yunnan Province in China through Myanmar and Bangladesh.
- Starting from Kunming, the route passes through nodal points in Myanmar (Mandalay and Lashio), Manipur & Silchar, Bangladesh (Sylhet and Dhaka) and extending towards Cox Bazar and Chittagong.
- The corridor envisages formation of a thriving economic belt, focusing on cross border transport, energy and telecommunication networks.



BBIN Motor Vehicle Agreement

- Bangladesh, Bhutan, Nepal and India motor vehicle agreement allows vehicles registered in one country to move into other 3 countries without hassles process at the boundary.
- Recently, Bhutan opted out of the agreement.

20. INTERNATIONAL EVENTS AND INSTITUTES IN NEWS

United Nations Global Compact

- The United Nations Global Compact (UNGC) is an initiative by UN to encourage private sector companies to do more in achieving Sustainable Development Goals (SDG).
- Under the Global Compact, companies are brought together with UN agencies, labour groups and civil society to catalyse actions in support of broader UN goals, such as MDG and SDG.

- UNGA is the world's largest **corporate sustainability initiative** which makes companies to align strategies and operations with universal principles on human rights, labour, environment and anti-corruption, and take actions that advance societal goals.
- In its recent report, it says that India has potential to generate \$1 trillion worth of business opportunities and 72 million jobs by 2030 for companies working in the sustainable sectors such as food and agriculture, energy, construction and healthcare.

SIPRI

- Stockholm International Peace Research Institute (SIPRI) is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- It is one of the most respected think tanks worldwide. It has a presence in Sweden and Beijing.
- In its recent report titled "Trends in world Military expenditure, 2016", which ranks countries based on their military spending, places India as the world's fifth largest spender on defence for 2016.
- Top Countries in military spending:
 1. US (\$611 billion),
 2. China (\$215 billion),
 3. Russia (\$69.2 billion) and
 4. Saudi Arabia (\$ 63.7 billion)
 5. India (\$55.9 billion)
- Pakistan does not figure in the top 15 spenders.

ReCAAP

- The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) is the first regional government-to-government agreement to promote and enhance cooperation against piracy and armed robbery in Asia.
- The Agreement entered into force on 4 September 2006.
- To date, 20 States (14 Asian countries, 4 European countries, Australia, the USA) have become Contracting Parties to ReCAAP.
- Denmark, Norway, Netherlands and United Kingdom are the 4 European Countries.
- India, Bangladesh, Srilanka, China, Japan, South Korea, ASEAN countries except Malaysia and Indonesia are the 14 Asian countries.
- The ReCAAP Information Sharing Centre (ISC) was established for exchanging information among Contracting Parties on incidents of piracy and armed robbery, supports capacity building efforts of Contracting Parties, and for cooperative arrangements.

Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP)

- It is a regional Inter – Governmental and autonomous institution which came into existence in 1979 at the initiative of the countries of Asia Pacific region and the Food and Agriculture Organisation (FAO) of the United Nations (UN) with support from several other UN bodies and donors.
- India is one of the key founder members of this Organisation.
- Its Headquarters is located at Dhaka, Bangladesh.
- The objective of CIRDAP is to promote regional cooperation and act as a serving institution for its member countries for promotion of integrated rural development through research action, training, information dissemination etc.
- Recently, Union cabinet has approved an agreement between Ministry of Rural Development and CIRDAP for establishment of CIRDAP Centre at National Institute of Rural Development and Panchayati Raj (NIRD&PR), Hyderabad.

Eurasia Economic Union

- India is set to formalize a free trade agreement with Eurasia Economic Union.
- The Eurasian Economic Union comprises Russia, Belarus, Armenia, Kazakhstan and Kyrgyzstan.
- The treaty on the Eurasian Economic union was signed in 2015.



Institutions of EAEU

- **Eurasian Economic Council** is the supreme body of the union consisting of all Head of the member states. It is similar to European Council.
- **Eurasian Intergovernmental Council** is the 2nd level of intergovernmental institution consisting of the Prime Ministers of member states.
- **Eurasian Economic Commission** is the executive body similar to European Commission and day to day work is done by this body and **Court of the EAEU** is the judicial organ.

European Court of Human Rights

- The European Court of Human Rights is an international court set up in Strasbourg, France in 1959.

- It rules on individual or state applications alleging violations of the civil and political rights set out in the European Convention on Human Rights.
- It is a full-time court and individuals can apply to it directly and its judgments are binding on the countries concerned.
- The Court monitors respect for the human rights in the 47 Council of Europe member States that have ratified the Convention.

Council of Europe

- It is the Europe's leading Human Rights Organisation.
- It includes 47 member States, 28 of which are members of European Union.
- All the member states have signed the European Convention of Human Rights. The European Court of Human Rights oversees the implementation of the Convention.
- Recently, the court has ruled against the Russian government, that it violated the Article 2 of the convention in its planning and use of lethal force to tackle the hostage crisis in Beslan region.
- Some of the outside EU members in Council of Europe are Russia, Iceland, Switzerland, Turkey, Azerbaijan, Georgia. Japan, Canada, U.S, Mexico, Israel.

21. NATIONAL INSTITUTES IN NEWS

The Bhandarkar Oriental Research Institute (BORI)

- The Bhandarkar Oriental Research Institute, Pune, was founded in the honor of the work of R.G.Bhandarakar, the foremost pioneer of scientific Orientology in India.
- Orientology is the study of the indigenous lore and wisdom of the ancient East or the 'Orient'.
- The Institute also hosts a Manuscripts Resource a Conservation Centre under the auspices of the National Mission for Manuscripts, a project of the Cultural Ministry of India.
- Recently, BORI has initiated the process of launching e-library and major digitization of its rare manuscripts in Sanskrit, Prakrit and Pali languages.

Indian Institute of Corporate Affairs

- The Indian Institute of Corporate Affairs (IICA) is under the aegis and jurisdiction of the Ministry of Corporate Affairs.
- It was established in 2008 at Manesar, Gurugram, Haryana.
- It is the first institution in India to be formally set up as a 'think-tank' for a major Ministry of GOI.
- It deals with various matters in the spectrum of corporate affairs regulation, governance & policy and to create avenues and opportunities for research, education, training and advocacy.

Indian Institute of Petroleum and Energy (IPE)

- Recently, Cabinet has given its approval for setting up of Indian Institute of Petroleum and Energy (IPE) at Visakhapatnam in A.P as an Institute of National Importance.

Advertising Standards Council of India (ASCI)

- The Advertising Standards Council of India (ASCI), established in 1985, is not a government body and it does not formulate rules for the public.
- It is committed to the cause of Self-Regulation in Advertising, ensuring the protection of the interests of consumers.
- ASCI was formed with the support of all four sectors connected with Advertising such as Advertisers, Advertising Agencies, Media (including Broadcasters and the Press) and others like PR Agencies and Market Research Companies.

22. ECONOMY

International Financial Service Centre (IFSC)

- Special Economic Zones Act, 2005 provides for the setting up of an International Financial Services Centre (IFSC) in a Special Economic Zone (SEZ).
- The country's first International Financial Services Centre (IFSC) has become operational at the Gujarat International Finance Tec-City (GIFT), Gandhinagar.
- All financial concessions prevailing as per the Special Economic Zones Act, 2005 and the Special Economic Zones Rules, 2006 will be applicable to IFSCs within the SEZs.
- Businesses setup in IFSC comes under guidelines and regulations of Ministry of Corporate Affairs, RBI, SEBI and IRDAI.
- India's first International Stock Exchange was recently inaugurated at the IFSC.
- India International Exchange (INX) is the wholly owned subsidiary of the Bombay Stock Exchange.

National Payment Corporation of India

- NPCI has been set up as an umbrella organization owned and operated by the banks and registered under Companies Act, 2013.
- NPCI has been authorised by Reserve Bank of India under the Payment and Settlements Systems Act, 2000.
- The authorised payment system operators including NPCI are required to follow the operational and technical standards laid out by RBI, follow the directions issued and submit the information / returns prescribed.
- RBI also conducts supervision of NPCI (both off-site and on-site) and also empowered to revoke authorisation and impose penalties / initiate prosecution proceedings for violations of the Regulations.

Green Growth Equity Fund

- India and the UK announce joint **UK-India Fund**, Green Growth Equity Fund.

- The fund aims to leverage private sector investment from the City of London to invest in Green Infrastructure Projects in India.
- Both governments reaffirmed their commitment to invest up to 120 million each (i.e. totally 240 million) in the joint fund.
- The fund will be established under the National Infrastructure Investment Fund framework.

Shell Companies

- Shell Company is a company without active business operations or significant assets.
- It is not necessarily illegal or illegitimate, as they often serve an important role for potential startups, for takeover of other business.
- It can act as a tax avoidance technique for legitimate businesses.
- It also acts as tax havens where one can transfer tax liability between different entities within the same company and money laundering.
- Recently, Enforcement Directorate has launched an operation against these shell companies under Prevention of Money Laundering Act to unearth the black money being channeled by the tax professionals using shell companies.

23. ENVIRONMENT

SPECIES IN NEWS

Arboreal Crab

- Recently, scientists have discovered a new species of tree-dwelling crabs in Western Ghats of Kerala.
- The new species named “Kani maranjandu” after the Kani tribe in Kerala.
- It is different from other genus by having characteristic traits such as hard upper shell, long-legged, male abdominal structure and reproductive parts.
- This is the first report of its kind to offer a record of an arboreal crab.

Comb jellies

- A new genetic analysis suggests that comb jellies were the earliest animals to evolve on earth and not the sponges.
- Comb jellies are the delicate marine predators.
- They have considerably more genes which support their "first to diverge" status in the animal lineage than sponges do and thus the new study claims that they were the first branch of animal family tree.

Ipomea Carnea

- Ipomea carnea is a Prosopis juliflora (Seemai Karuvelam) without thorns.
- Ipomea carnea, also known as Neyveli kattamanakku has clogged every water body in the Tamil Nadu State and proved detrimental to its aquatic ecosystems.

- Ipomea carnea was introduced as an ornamental plant and it is a highly adaptive plant, which thrives both in inundated as well as dry conditions.
- It has the capacity to turn a river into soil.
- There are other similar species like Alternanthera philoxeroides (seemai ponnanganni), genus Sphagneticola (such as seemai karisalanganni) and Eichhornia crassipes (ahaya thamarai) have also invaded the aquatic ecosystem of Tamil Nadu.
- These invasive species pose health hazards such as seemai ponnanganni grows even in sewage and industrial waste, absorbing lead, mercury and ammonia. The metals enter the body of those who consume the plant.
- These species does not possess the medicinal values of native species.

Gentoo penguin

- Gentoo penguins are found in the Antarctic Peninsula and numerous islands around the frozen continent.
- Gentoo's are the world's third largest members in penguin family, reaching a height of 30 inches and always gather in colonies of breeding pairs.
- They are found in **Ardley Island** off the coast of the Antarctic Peninsula and the island host one of the biggest and oldest Gentoo Penguin colonies.
- Gentoos are partial to ice-free areas, including coastal plains, sheltered valleys, and cliffs. Like all penguins, gentoos are awkward on land. But they are pure grace underwater.
- They have streamlined bodies and strong, paddle-shaped flippers that propel them up to 22 miles an hour (36 kilometers an hour), faster than any other diving bird.
- They are protected by the Antarctic Treaty of 1959.
- IUCN Status: Near Threatened. It was included in IUCN Red List in 2007.
- Recently, researchers have found that big eruptions of a volcano on nearby Deception Island have a huge impact on penguin's population.
- Using the guano (Penguin excrement), which is accumulated in the sediment of freshwater Ardley lake, researchers unraveled the history of the penguin colony.

Three new plant species in Nilgiris Biodiversity

- The three new species of plants belonging to the Balsaminaceae family were identified in Mukurthi National Park.
- The species Impatiens Kawtityana, tiahmushkulni and nilgirica were named after Toda Deity hills 'kawtty', 'Taihmushkuln'.
- Toda tribes in Nilgiris believe that their god resides and rules them from the hills and thus they preserve the ecosystem.
- Mukurthi National Park is a protected area located in the western corner of the Nilgiris plateau in Tamil Nadu.
- It is part of Nilgiris Biosphere Reserve, India's first International Biosphere Reserve and part of UNESCO World Heritage Site.



Indian Wolf

- Indian Wolf with the scientific name *Canis lupus pallipes*, synonym *Canis Indica* is one of the gray wolf subspecies.
- There are around 37 subspecies which are known to exist under *Canis lupus*. They are also called as Iranian Wolf, found in Western India, Iran, Pakistan, Turkey, Saudi Arabia and Israel.
- The Indian Wolf is adapted to scrublands, grasslands, and semi-arid pastoral environments.
- It is found mainly in the Indian states of Gujarat, Rajasthan, Haryana, Uttar Pradesh, Madhya Pradesh, Maharashtra, Karnataka and Andhra Pradesh.
- The Indian Wolf is categorized as 'Endangered' by IUCN.
- It is a Schedule I animal in the Wildlife (Protection) Act, 1972.
- Jai Samand Sanctuary in Rajasthan is the only one known location where the Indian Wolves are kept in captivity.
- Indian Wolf is one of the smallest subspecies of wolves and much of its habitat overlaps that of the Himalayan Wolf.
- Himalayan wolf (Proposed clade under Tibetan Wolf) is also a subspecies of Gray Wolf species. They are mainly found in Jammu and Kashmir, Himachal Pradesh.

Kharai Camels

- Kharai camels also called as "Swimming Camels" is a separate breed among the nine breeds of camel found in India.
- Gujarat is the only State in India which is home to Kharai Camels.
- The camel is adapted to extreme climate of Kutch and shallow seas and high salinity.
- It grazes on mangrove trees and can swim up to three kilometers into the sea in search of their primary food mangroves.
- The camels are bred by 2 distinct communities, the Fakirani Jats, who are the handlers and the Rabaris, who own the animals. The nomadic communities move in search of mangroves for their camels to feed on.
- Jats, Rabaris and Sammas belong to maaldhari – the nomadic pastoralists of Kachchh who own herds of camels, goats, sheep, buffaloes and cows.
- The steadily decreasing mangroves due to heavy industrialization along the coast have affected the traditional grazing routes.
- Mangrove sites in Gujarat – Gulf of Kutch, Gulf of Khambhat and Dumas-Ubhrat.

Lionfish

- The lionfish is a carnivorous fish native to the warm, tropical waters of the South Pacific and Indian Oceans (i.e., the Indo-Pacific region), including the Red Sea.

- It is an **invasive species in Atlantic Ocean** and it has no known predators in the Atlantic Ocean.
- Lionfish have been found in water depths from 1 to 300 feet on hard bottom, mangrove, seagrass, coral, and artificial reefs (like shipwrecks).
- Lionfish is a nocturnal hunters and it is a top predator in the food chain.



Native range of Lionfish

Protecting Coral Reefs

- In a recent research, Scientist has found that Common household **vinegar** may help protect Australia's iconic Great Barrier Reef.
- Vinegar which contains weak Acetic acid may help in killing crown-of-thorns starfish (CoTS), which is one of the primary reasons for the decline of corals.
- This innovative method of killing the pest by vinegar has been proven safe to other marine life and will be introduced on the Great Barrier Reef.
- The **crown-of-thorns starfish** is a large, multiple-armed starfish that usually preys upon hard, or stony, coral polyps.
- It is one of the largest starfish in the world and has a very wide Indo-Pacific distribution where coral reefs or hard coral communities occur.
- The range includes tropical and subtropical latitudes from the Red Sea and the east African coast across the Indian Ocean, and across the Pacific Ocean to the west coast of Central America. It is most common in Australia.

Ban on Metal Mining

- El Salvador is the first country in the world nation to impose blanket ban on metal mining.

BRS Convention

- Conference of Parties (COP) to BRS (Basel, Rotterdam and Stockholm) convention will be held in Geneva with the theme - "A future detoxified: sound management of chemicals and waste".

- The BRS Conventions are multilateral environmental agreements, which share the common objective of protecting human health and the environment from hazardous chemicals and wastes.
- **Basel Convention** - It will discuss the control of transboundary movements of hazardous wastes and their disposal.
- It covers wide range of wastes defined as “hazardous wastes” that are explosive, flammable, poisonous, infectious, corrosive, toxic or eco-toxic including household and incinerator ash.
- **Rotterdam Convention** – It will deliberate on the Prior Informed Consent (PIC) procedure for certain hazardous chemicals and pesticides in international trade.
- The PIC procedure is the mechanism for formally obtaining and disseminating the decisions of importing Parties for receiving the chemicals under the convention and ensuring compliance by the exporting countries.
- The inclusion of chemicals under this convention does not ban the chemical. However, importing countries need to follow the PIC procedure and it may lead to an increase in the trade cost, as well as delay the import/export process.
- **Stockholm Convention** – It will discuss on the control of Persistent Organic Pollutants (POPs).
- POP - These remain intact in the environment for long periods (persistent), become widely distributed geographically (long range transport), accumulate in the fatty tissue of humans and wildlife (bioaccumulation), and have a harmful impact on human health, or on environment (toxic).
- Under the Convention, the chemicals can be listed for complete elimination from production, use, export and import (Annex-A), Restriction in use and production for specific purpose only (Annex-B) or Unintentional production (Annex-C).
- Listing of chemicals under Stockholm convention bans/restrict the chemicals for trade, import, export and use along with minimizes unintentional release of POPs.
- India has ratified all the three conventions and the meetings of the COPs of BRS Conventions are generally held **every alternate year**.

SAFAR

- System of Air Quality and Weather Forecasting Research (SAFAR) operates under the aegis of the Indian Institute of Tropical Meteorology (IITM), an autonomous body under the Ministry of Earth Sciences
- It facilitates information on air quality, weather and radiation (Ultraviolet index).
- The UV index is a rough measure of the amount of harmful ultraviolet radiation in the sunlight reaching the earth.
- SAFAR has been operational in Pune, Mumbai, Delhi and will also be set up in Ahmedabad.
- SAFAR’s recent data shows that Delhi faced a high risk of ultraviolet radiation; Mumbai has been at medium risk while Pune is in the low-risk zone.
- In Pune, although the temperature was high, the UV index remained in low risk zone as there are still a lot of aerosol particles in the atmosphere which scatter back the ultraviolet dose.

- In Delhi, there is not much variation between maximum and minimum temperatures and, hence, the UV index has been high.

World Conference on Environment

- The conference was organized by National Green Tribunal and held at New Delhi.
- UNEP, Ministry of Environment, Forest and Climate Change (MOEF & CC), Ministry of Water Resources, Asian Development Bank and the Delhi Pollution Control Board are the Sponsors of the Conference.

Goldman Environmental Prize

- The Goldman Environmental Prize honors grassroots environmental heroes from the world's six inhabited continental regions: Africa, Asia, Europe, Islands & Island Nations, North America, and South & Central America.
- The Prize recognizes individuals for sustained and significant efforts to protect and enhance the natural environment, often at great personal risk.
- The Prize is given by Goldman Environmental Foundation, which was launched by late Philanthropists Richard and Rhoda Goldman.
- This year, an activist from India has been chosen for this Prize.
- Samantara, an iconic leader of social justice movements, led a historic 12-year legal battle that affirmed the indigenous Dongria Kondh's land rights and protected the Niyamgiri hills from a massive, open-pit aluminum ore mine.

Dongria Kondh

- The Niyamgiri hill range in South-West Odisha State, is home to the Dongria Kondh tribe.
- They practice shifting cultivation and horticulture.

Belmont Forum

- The Belmont Forum, created in 2009, is a high level group of the world's major funders of global environmental change research and international science councils.
- It provides an opportunity to identify study and deliver international environmental research priorities.
- India is a member of Belmont Forum, besides Australia, Brazil, Canada, European Commission, France, Germany, Japan, Netherland, South Africa, UK and USA etc.
- Ministry of Earth Science represents India in the Belmont Forum since 2012.
- In order to coordinate the activities of the Belmont, a Full time Secretariat is hosted by one of the Belmont forum member on rotational basis.
- National French Research Agency (ANR), France is hosting the Secretariat from January, 2015 to December, 2017.

- Recently, India has approved the collaborative agreement with ANR France for supporting the Belmont Forum Secretariat from 2015 to 2017.

DNA banks for wild animals

- North India is all set to get its first DNA bank for wild animals.
- Indian Veterinary Research Institute (IVRI), located in Uttar Pradesh's Bareilly district, is only the second institution in the country to house such a bank for wildlife DNA records.
- The Laboratory for the Conservation of Endangered Species (LaCONES) in Hyderabad has the only other DNA bank in India.
- The collected samples in DNA banks would enable scientists and conservation groups to identify species accurately and DNA testing can also identify whether the animal belonged to an endangered species and animals may have suffered from any diseases.
- The new DNA bank in UP is also expected to keep poaching in check and also control the cost of sending specimen to the facility in Hyderabad for testing.

Desalination

- The process of converting sea water into potable water can be done using Graphene Oxide.
- The Graphene oxide (GO) membranes can be used to filter common salts in sea water while allowing water to pass through on a commercial scale.
- However, there is a problem associated with the use of Graphene Oxide. The membranes have a tendency to slightly swell when immersed in water and this increased spacing between successive sheets allows smaller salts to flow through the membrane along with water without being filtered.
- Recently, the researchers has addressed this problem by developing Graphene Oxide membranes that do not swell when immersed in water.
- They have achieved this through having a certain interlayer spacing by storing the membranes in high humidity and then physically restraining the membrane from swelling.
- This altered the rate at which water permeated through the membranes and efficiency of desalination process has increased.

24. SCIENCE AND TECHNOLOGY

SPACE

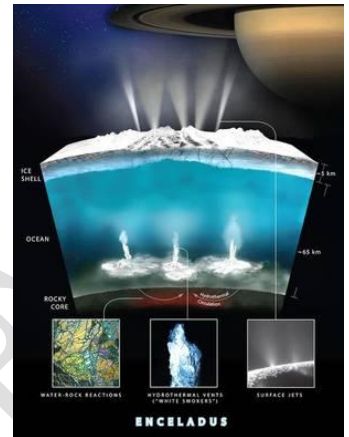
Belle – II

- It is an experiment carried out by **The High Energy Accelerator Research Organisation (KEK), Japan** to study violations of the standard model and dark matter.
- It has a six layer highly sensitive particle detector which indirectly probe new physics using intense electron-positron beams unlike direct search experiments being carried out in Large Hadron Collider.

- The experiment has a significant Indian participation. The particle detector at the heart of Belle –II has been built by an Indian Scientists Tariq Aziz and Gagan Mohanty from Tata Institute of Fundamental Research
- Recently, the experiment has been rolled out. It has a grand collaboration of 700 Scientist from 23 countries.

Saturn Moon

- Data collected by NASA’s Cassini spacecraft suggest the possibility of hosting life in Saturn’s moon Enceladus.
- Enceladus is a small moon with an ocean of liquid water beneath its icy crust. Clouds of gas erupting out of Enceladus contain hydrogen.
- There are hydrothermal chemical reactions similar to those that occur at hot fissures at the ocean bottoms on the earth, in which minerals in the rocks of ocean bottom absorbs oxygen atoms from the hot water flows past the rocks and releasing hydrogen.



Cassini Spacecraft

- Cassini-Huygens is an unmanned spacecraft sent to the planet Saturn in 2004.
- It is the fourth space probe to visit Saturn (pioneer 11, Voyager1, Voyager 2) and the first to enter orbit.
- Its design includes a Saturn Orbiter and a Lander called “Huygens” for the moon Titan.
- This was the first landing ever accomplished in the outer solar system.
- The spacecraft is heading into its final months; it begins its last journey orbiting the planet and its rings before its mission finally ends with a crash into Saturn’s atmosphere in September.

China’s first Cargo Spacecraft

- Tianzhou-1 is the china’s first cargo spacecraft launched by Long March Rocket form Hainan province.

Super Earth

- Scientists have discovered a new Earth-like planet, Super Earth, orbiting a red dwarf star “LHS 1140” about 40 light-years away.
- The astronomers estimate the age of the planet to be at least five billion years.
- The red dwarf star LHS 1140 is much smaller and cooler than the sun and the super Earth LHS 1140b is ten times closer to its star than the Earth.
- The super Earth has a mass around 7 times greater than the Earth and receives about half as much sunlight from its star as the Earth and lies in the middle of the habitable zone.
- The greater mass and higher density of the super Earth implies that the exoplanet is probably made of rock with a dense iron core.

Dawn spacecraft

- Dawn is a space probe launched by NASA with the mission of studying two of dwarf planet of the asteroid belt, **Vesta and Ceres**.
- It was launched in 2007 and it is currently in orbit about its second target, the dwarf planet Ceres.
- Dawn is the first spacecraft to orbit two extraterrestrial bodies, the first spacecraft to visit either Vesta or Ceres, and also the first to visit a dwarf planet before New Horizons to Pluto.
- It is the first NASA exploratory mission to use ion propulsion, which enabled it to enter and leave the orbit of multiple celestial bodies.

DEFENCE

Scorpene class submarine

- It is a class of diesel-electric submarine jointly developed by the French DCNS under Project 75.
- It features diesel-electric propulsion and an additional air-independent propulsion (AIP) system.
- It will have both anti-surface and anti-submarine warfare.
- Conventional diesel-electric submarines have to surface every few days to get oxygen to recharge their batteries. With AIP systems, they can stay submerged for much longer periods.
- INS Kalvari and INS Khanderi, a Kalvari class scorpene submarine was built under the project and will be commissioned soon.
- INS Kalvari is succeeded by the Project 75I, under which 6 diesel submarines with AIP technology will be built for Indian Navy by 2022.

Brahmos Missile

- Recently, Indian Navy has successfully test fired the land variant of supersonic cruise missile “Brahmos”.
- This variant of Long Range Brahmos Missile was fired from Indian Naval Ship Teg, a Guided Missile Frigate, on a target on land.
- Brahmos, a two-stage (solid – liquid ramjet) missile is developed by a joint venture between India and Russia with a range upto 290 km and can carry conventional warhead weighing 200 to 300 kgs.
- Recently, Brahmos Extended Range (ER) Missile which is capable of hitting the enemy targets at higher range than 290 km was successfully test fired.

China's first indigenous aircraft carrier

- China has launched its first indigenous aircraft carrier Type 001-A, also known as Shandong.
- It is china's second aircraft carrier as the first one “Liaoning” was purchased from Ukraine.

THAAD

- Terminal High Altitude Area Defense (THAAD) is an anti-ballistic missile defense system developed by US.

- It is designed to shoot down short, medium and intermediate range ballistic missiles in their terminal phase.
- The missile carries no warhead, but relies on the kinetic energy to destroy the incoming missile.
- A kinetic energy hit minimizes the risk of exploding conventional warhead ballistic missiles and nuclear tipped ballistic missiles will not detonate upon a kinetic energy hit.
- U.S and South Korea agreed last year to deploy the THAAD to counter the threat of missile launches by North Korea.

Tupilov aircraft Tu-142M

- Indian Navy's iconic Tupolev-142M anti-submarine warfare aircraft will be decommissioned soon.
- It was inducted into Indian navy from erstwhile USSR in 1988.
- It is a long range maritime patrol aircraft inducted in INS Rajali and it is the fastest turboprop aircraft in the world.
- The aircraft has been mainly used for long range maritime reconnaissance and anti-submarine warfare operations.
- The aircraft was nicknamed the "Bear" by NATO and it was one among the heaviest aircraft fully loaded.
- The aircraft will soon be given to Andhra Pradesh government to be converted into a Museum.
- It was deployed in operations like Operation Cactus in Maldives, Operation Vijay and Operation Parakram in 2002 and anti-piracy operations from 2011 to till date.
- The aircraft will be replaced by the newly inducted Boeing P-8I aircraft.

BIOTECHNOLOGY

Grassoline

- It is a sustainable energy resource, a biofuel derived from grass that could power aircraft.
- The grass is pre-treated to improve its biodegradability and then bacteria are added which convert the sugars in the grass into lactic acid.
- This lactic acid can serve as an intermediate chemical to produce other compounds such as biodegradable plastics (PLA) or fuels.
- The lactic acid is then converted into caproic acid, which is further converted into Decane which can be used in aviation fuel.

BGR-34

- Council of Scientific and Industrial Research (CSIR) under Ministry of Science and Technology has developed an herbal formulation named NBRMAP-DB effective against diabetes.
- It is given the brand name BGR-34 and it is effective against chemically induced type II diabetes.

25. SCIENCE

Disease in news

- **Agra or Nalband Mutation** – It causes neurodegenerative disease caused by the mutation in the gene MLC-1 in the chromosome 21. It is found among Nalband communities in Agra.
- **Polymelia** – It is rare birth defect in which the individual has more than the usual number of limbs.

Mosquirix

- It is an injectable vaccine, also called as RTS,S.
- It was developed by the British drug-maker to protect children from the most deadly form of malaria in Africa.
- It is the **world's first malaria vaccine** and first regulator WHO approved vaccine against the mosquito-borne disease.
- Ghana, Kenya and Malawi will pilot the vaccine from 2018.

Kyasanur Forest Disease (KFD)

- Kyasanur Forest disease (KFD) or Monkey Fever is a **tick-borne viral hemorrhagic fever endemic to South Asia**.
- The disease is caused by a virus belonging to the family **Flaviviridae**, which also includes yellow fever and dengue fever.
- The virus has been detected in monkeys in parts of **Bandipur National Park**, Karnataka.
- The symptoms of the disease include a high fever with frontal headaches, followed by haemorrhagic symptoms, such as bleeding from the nasal cavity, throat, and gums, as well as gastrointestinal bleeding.

Terpene

- Terpenes are organic compounds found in a variety of plants, and contribute to their flavor, scent and color.
- The compounds are responsible for the essential oils of plants and the resins of trees and are often used in food additives, perfumery and aromatherapy.
- Some are even thought to have medicinal properties, and to help in fighting bacteria, fungus and environmental stress.
- Terpenes are also being used by living organisms as an instrument for long-distance communication.
- The researchers suggest that terpenes are the most popular chemical medium on our planet to communicate through.

Urumin

- Researchers has identified a new “Peptide” and named it as “Urumin”.
- Peptide is a chemical compound that is composed of a chain of two or more amino acids and is usually smaller than a protein. Many hormones and antibiotics are peptides.

- Researchers found the new peptide from Skin mucus secreted by a frog species native to Kerala.
- The new peptide can be used to develop an anti-viral drug that can destroy various strains of flu, especially H1 flu virus which is responsible for swine flu pandemic.

Liver carcinogen

- Aflatoxin is a toxin produced by Aspergillus moulds that commonly infect corn, peanuts, almonds and sunflower seeds.
- Aflatoxin has the potential to cause liver cancer.

Alternative to Lithium ion batteries

- Recently, Scientists have developed **nickel-zinc (Ni-Zn) batteries** in which a 3D Zn “sponge” replaces the powdered zinc anode, or positively charged electrode as a safer alternative to fire-prone lithium-ion batteries.
- With 3D Zn, the batteries provide energy content and recharge ability and avoid the safety issues that plague lithium.
- Previously Zn batteries are not considered rechargeable in practice due to their tendency to cause short circuits but in Ni-Zn batteries, electric currents are more uniformly distributed within the sponge, making it physically difficult to cause short circuits.

Stereolithography

- Scientists have developed a novel way to 3D-print objects using glass.
- Researchers mixed nanoparticles of high-purity quartz glass and a small quantity of liquid polymer and allowed the mixture to be cured by light at specific points — by means of stereolithography.
- Stereolithography is a form of 3D-printing technology used for creating models, prototypes, patterns and production parts in a layer by layer fashion using **photopolymerisation**.
- Photopolymerisation is a process by which light causes chains of molecules to link, forming polymers.
- A variety of 3D-printing techniques available so far have been used on polymers or metals, but rarely on glass.
- Scientists have developed a new method to 3D-print objects using glass, an advance that could be used to make **very small optical components for complex computers**.
- The 3D-printed glass can be used for many applications, including data technology.

Vitamin C

- During times of stress or hostile conditions, such as increased temperature and presence of antibiotics, bacteria tend to come together and form a **biofilm** to protect themselves.
- The stress response pathway is crucial for bacteria to survive during hostile conditions. So blocking this pathway is a sure way of killing the bacteria.
- New study at IISc has found the molecular mechanism by which vitamin C impedes the formation of biofilm and even kills **Mycobacterium smegmatis**, a non-pathogenic bacterium that belongs to the same genus as the TB-causing mycobacteria.

- **Other uses of Vitamin C:** Boosts and strengthens immunity. It speeds-up recovery from tuberculosis and impedes the TB causing bacteria from causing disease, and even kill the bacteria in culture at high concentration.

Biological sensors

- Migratory birds have biological sensors that can sense the earth's magnetic field, and guide them in their long journeys spanning continents.
- One might, mistakenly assume that these sensors would be located in the brain. Contrarily, they are located in the eyes, **more specifically, in the right eye.**
- Birds' biological compass is due to the **interplay of chemical reactions, electron spins and the magnetic fields** present.
- Thus, understanding the avian compass is a lesson in quantum biology. This may be of use, one day, in engineering quantum computers.

Hydrogen Peroxide

- Hydrogen peroxide, the simplest peroxide is a **colourless liquid**, slightly more viscous than water.
- It is used as an oxidizer, bleaching agent and disinfectant. It is also used as ripening agent.
- It is more reactive to oxygen and has been used as a propellant in rocketry.
- It is stored with a stabilizer due to its instability property.
- Hydrogen peroxide is found in biological systems including the human body. Enzymes that use or decompose hydrogen peroxide are classified as peroxidases.
- Recently, government planned to impose anti dumping duty on Hydrogen Peroxide.

26. REPORTS AND INDICES

Judicial Performance Index

- It is the proposed index by Niti Aayog.
- The index will help High Courts and their chief Justices keep track of the performance and processes at district courts and subordinate levels for reducing delay.
- The index will fix non-mandatory time frames for different types of cases to benchmark when a case has been delayed.
- The index can also include certain progress made by subordinate courts on process steps already approved by High Courts. This annual evaluation will fix the problems and reduce the delay.
- This index will also spur competitive reform among the subordinate courts in the state.

Global Youth Development Index

- The index is compiled by the **Commonwealth Secretariat** on the countries' prospects for young people in employment, education, health, civic and political spheres.

- India ranked 133rd in the index covering 183 nations, below neighbouring countries like Nepal (77), Bhutan (69) and Sri Lanka (31) and trailing behind the South Asian average.

Water Management Index

- The index is developed by **Niti Aayog**.
- The index acts as a useful tool to assess and further improve the performance in efficient management of water resources.
- The Index has 28 key Performance Indicators covering irrigation status, drinking water and other water-related sectors.
- Niti Aayog will prepare the index for States/Union Territories from the current financial year (2017-18).
- The index would provide useful information for the States and Central Ministries enabling them to formulate and implement suitable strategies for better management of water resources.

Travel and Tourism Competitive Index

- The index is prepared by **World Economic Forum**.
- The Index measures the set of factors and policies that enable the sustainable development of the travel and tourism sector, which in turn, contributes to the development and competitiveness of a country.
- India has moved 12 places up in this ranking from **52nd to 40th position** in 2016 among 136 countries.
- India has moved from 65rd position to 52nd position in 2015. In all, in last three years India has cumulatively improved its ranking by 25 places which is a significant achievement.
- India's jump in rankings is attributed to the pro-active steps in terms of development of tourism infrastructure, easing of entry formalities for tourists by introducing the e-visa facilities in November 2014.

Global Health Estimates for South Asia - It is compiled by World Bank for the World Health Organisation (WHO).

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