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CURRENT AFFAIRS MAGAZINE

JUNE 2018

Shankar IAS Academy™

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JUNE 2018

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G.S PAPER II

1. POLITY

1.1 SC on Reservation in Promotions

Why in news?

Supreme Court recently said that quota in job promotions would not be debarred until it further decides on the matter.

What is the case?

- SC was hearing the Centre's plea in connection with an earlier order of the Delhi HC.
- The HC struck down a 1997 circular issued by the Department of Personnel and Training.
- The circular extended reservation in promotion to SC and ST employees beyond the five years stipulated by the apex court.
- HC had said that this was not supported by any quantifiable data to prove conditions of backwardness etc.
- Also, there were various verdicts by the HCs of Delhi, Bombay, and Punjab and Haryana on reservation in promotion to SC/STs.
- Resultantly, the entire process of promotion had come to a "standstill".

What is the present SC judgement?

- SC said the government "is not debarred from making promotions in accordance with law".
- However this is "subject to further orders" and "pending further consideration of the matter".
- This essentially means that the government can extend reservation to promotions as envisaged by the Constitution.
- But this has to be strictly in accordance with the law as it stands now.
- Any such appointment will also be subject to the final outcome of petitions which are pending before the apex court.
- The law that currently holds is the 2006 judgment of the Supreme Court in M Nagaraj & Others vs Union of India.
- The M Nagaraj verdict also said the creamy layer concept cannot be applied to the SCs and STs for promotions in government jobs.

What are the current provisions?

- Article 16 (4A), a special provision, provides for reservation for promotion only to SCs and STs.
- These are SC/STs who, in the state's opinion, were not adequately represented in the services.
- The state would have to make out a case for providing reservation based on quantifiable data.
- These may include proof of backwardness and inadequacy of representation.
- It should also ensure that it does not affect the overall efficiency of administration.

1.2 SC Ruling on Puri Jagannath Temple

Why in news?

The Supreme Court recently gave directions on the administration of the Puri Jagannath Temple.

What is the case about?

- A petition was filed on harassment and exploitation faced by visitors in the temple.
- This was said to be due to the commercialisation of rituals.
- Concerns were also raised on issues of hygiene, encroachments and management of the temple.

What are the court's directions?

- The SC gave some specific directions to the Shree Jagannath Temple Administration (SJTA).
- SJTA is to ensure that no direct collection of the offerings is made by any Sevaks.
- All the offerings should be through either hundi or deposited and accounted for and properly utilized.
- They should not be individual pockets by the Sevaks/attendants.
- As, these would be given their due remuneration as per rules.
- To ensure this, the SJTA has to review the arrangement of CCTV cameras and install more.
- An independent panel must view the footage at suitable intervals and submit a report to the District Judge.
- The court has directed the Puri District Judge to file a report on exploitative practices.

What are the concerns?

- The Servitors of the Temple are largely dependent on the temple for their livelihood.
- Given this, the SC's directive may force them into penury/poverty.
- The order does not distinguish between dakshina and daan.
- The former is a fee paid voluntarily by devotees to servitors for performing their desired rituals.
- On the other hand, daan is the donation to the temple.
- Many devotees are under the impression that the SC has banned dakshina.

What is SJTA's stance?

- There is said to be coercive collection of large amounts in the form of dakshina.
- The Shri Jagannath Temple Act, 1954, provides for the welfare of servitors.
- Under this, the Shri Jagannath Temple Foundation Fund receives all donations exceeding Rs 500.
- The collections are invested in long-term fixed deposits in banks and the interest returns to the Fund.
- A portion of it is used to run a sebayat (servitors') hospital, give scholarships to their children, and for old age and widow pensions.
- Given this support system, servitors should not expect any part of the temple's offerings.

Quick Fact

Puri Jagannath Temple

- The Shree Jagannath Temple is located in Puri, Odisha.
- It is an important Hindu temple dedicated to Lord Jagannath, a form of Lord Vishnu.
- It is well known for its annual RathaJatra, or chariot festival.
- The temple is one of the four great 'Char Dham' pilgrimage sites.
- The other three are Badrinath (Uttarakhand), Dwarka (Gujarat), and Rameswaram (Tamil Nadu).

1.3 Politics Vs Bureaucracy - Delhi

Why in news?

There is an ongoing tussle between the elected government and the bureaucracy in Delhi.

What is going on in Delhi?

- **Government** - Delhi CM Kejriwal has said there was "de facto President's Rule" in the national capital.
- Mr. Kejriwal, Deputy Chief Minister, and some ministers have been staging a sit-in at the Raj Niwas.
- They called attention to an "illegal strike by Delhi government officers".
- They demanded that Lieutenant-Governor order an end to what they call a strike by officers.

- **Bureaucracy** - But Raj Niwas and the IAS officers' association has said there is no strike.
- Passing of the state budget and the accompanying budget session are pointed as proofs of a working machinery.
- However, they admit to being part of what is at least a 'non-cooperation campaign'.
- They have restricted communication with the political executive to the written form alone since February.
- Also, not attending meetings convened by Ministers.
- This was in protest of the alleged assault on Chief Secretary by AAP MLAs at Mr. Kejriwal's residence.
- The bureaucrats claim they feel vulnerable in the absence of Ministerial assurances of their safety.

What is the tussle for?

- Delhi witnesses a tussle for "full statehood" versus "partial statehood".
- Relations between the Chief Minister and Lieutenant General in Delhi has for long been a concern.
- But this has less to do with constitutional correctness and more with the political compulsions.
- The principle of special sensitivities for national capitals exists for Delhi too.
- This is on account of the national, international importance, geographical location and strategic significance.
- This makes the claim to "full statehood" for Delhi to be treated differently.

What are the implications?

- It results in a fractured arrangement of power-sharing.
- This applies to law and order, land and services residing with the central government.
- This arrangement has always been contested by the state government.
- Such constitutional arrangements militate against the preferences of the "elected government".
- The compromises and restrictions defeat the purposes of democracy and accountability in elected governments.
- E.g. the formation of the present Delhi government was followed by the LG's office imposing many constraints.
- It disabled the power of the state government to transfer employees.
- Also, restrictions were imposed on ordering vigilance probes on complaints or proceeding against corrupt officials.

Why is the issue significant?

- Trust between the political class and bureaucracy is necessary for good governance.
- The impasse in Delhi suggests a total breakdown in the relations between the two sections.
- This spat between the LG and the CM has further diminished the nobility of constitutional offices.
- The government must introspect and adopt a more mature approach to the bureaucracy.

1.4 Verdict on TN MLAs Disqualification

What is the issue?

- 18 MLAs in Tamil Nadu were disqualified by the Assembly Speaker earlier.
- A split verdict has been given, regarding the disqualifications, by a two-member Bench of the Madras HC.

What is the case on?

- The case relates to a memorandum given by Mr. Dhinakaran's loyalists to the Governor earlier in 2017.
- They belong to the Amma MakkalMunnetraKazhagam, a split party of the ruling ADMK.
- The memorandum expressed lack of confidence in the Chief Minister.

- It requested the Governor to set in motion a “constitutional process” against him.
- Following thus, on party’s Chief Whip’s complaint, the Speaker ruled that the MLAs had incurred disqualification.
- This was on the ground that their action amounted to voluntarily giving up party membership.
- It thus eventually invited provisions of the anti-defection law.

What is the rationale for upholding the disqualification?

- Both judges are cognisant of the limits of judicial review on the matter.
- But the Chief Justice Indira Banerjee upheld the earlier order of disqualification.
- She has declined to interfere on the matter.
- This was on the ground that it was proper to examine only the decision-making process, and not its merits.
- Mere criticism of the CM or withdrawal of support, by itself, would not attract disqualification.
- However, if the MLAs’ action results in the fall of their party’s government, it is “tantamount to implied relinquishment” of their membership.
- Going by this, there seems to be no perversity or mala fide in the Speaker’s action.

What is the rationale for striking down the disqualification?

- The other judge, Justice M. Sundar has noted that the Speaker’s order is invalid.
- He terms as mala fide the Speaker’s decision not to apply the disqualification rule.
- This is based on all the four grounds on which judicial review in such cases is permitted.
- These are perversity, mala fide, violation of natural justice and the constitutional mandate.
- The Speaker’s order was aimed at creating an “artificial majority”.
- The question of voluntarily giving up membership would not arise in this case.
- This is because the party itself was embroiled in a factional tussle before the Election Commission.

What are the implications?

- The matter will now be referred to a third judge.
- The option would be to choose between the limited view of the decision-making process or the other more expansive view.
- The issue leaves as many as 18 Assembly constituencies unrepresented.
- A unanimous judgment would have adversely impacted the government, regardless of the decision.
- The split judgment on the MLAs’ case gives a further lease of life to the TN Chief Minister.
- But it prolongs the political uncertainty in Tamil Nadu.

1.5 Pudhiya Thalaimurai News Channel Case

What is the issue?

- Recently, Tamil Nadu government filed a case against the Tamil news channel “PudhiyaThalaimurai” for allegedly promoting enmity in one of its programs.
- Considering the circumstances of the case, this is nothing short of a direct attack on press freedom and democratic right to an opinion.

What is the case about?

- “PudhiyaThalaimurai” (PT) had organised a ‘discussion forum’ on the continuing protracted protests in Tamil Nadu in the recent past.
- Subsequently, Tamil Nadu government slapped a case against the channel under for “promoting enmity between groups”.

- The cause for the action was certain remarks made by a couple of the TV channel's guests who had participated in the aforementioned program.
- Although it was some sections of the audience that was disruptive, FIRs were filed against two participants – whose remarks were clear not inflammatory.
- Notably, the FIR also included in its ambit, the program's anchor and the management of PT channel.
- More shockingly, the FIR was filed even before the roundtable discussion on the role of protests was aired.
- A sensitive issue like the current string of protests is bound to invoke polarising views, but the crackdown on voicing opinions is an extremely bad precedent.

Is the TN government acting in a vindictive fashion?

- The state government-owned "Arasu Cable TV" network services about 1 crore households in Tamil Nadu and is a major TV broadcaster.
- In a clearly targeted and vindictive action, PT was suddenly pushed from the 124th to the 499th slot on the "Arasu Network".
- In some regions, the channel was also removed from the Tamil cluster of channels and regrouped with those in other languages.
- For subscribers who are linked to Arasu via analogue, the channel has become simply unavailable in many areas.
- Significantly, a couple of other channels too were subjected to such actions in the past, thereby establishing a clear trend.

1.6 Finance Commission Formula for North Eastern States

Why in news?

The 15th FC is planning a fair formula for the distribution of tax proceeds between the Union and the States.

What the formula of 14th Finance Commission?

- The 14th FC had adopted a formula-based tax devolution approach, apart from grants-in-aid for local bodies, disaster relief, and post-devolution revenue deficit grants.
- The share of devolution to the States was enhanced to 42% from 32%, which gave the States considerable flexibility.
- However, it dispensed with sectoral grants for elementary education, the forest sector and renewable energy sector, among others. No State-specific grants were recommended.
- The assumption was that a higher level of devolution would offset other requirements.
- The devolution formula, therefore, is central to the approach of resource transfers.
- The 14th FC accorded 27.5% weight to the population (of which 17.5% was of the 1971 population), 15% to area, 7.5% to forest cover and 50% to income distance.
- By this Larger States with larger populations have a greater requirement of resources.
- Income distance was adopted as a proxy for fiscal capacity, and forest cover was given weightage for the first time, underscoring ecological benefits.

What are the concerns with the 14th FC formula for N.E states?

- The Northeast represents a distinct entity for developmental planning and has a special category status.
- Low levels of human development indices, a low resource base, and poor connectivity and infrastructure pose a different challenge which must be taken into account in the devolution formula.
- Central Ministries earmark 10% of their allocations for the Northeast, by the same logic, 10% of tax proceeds could be earmarked for vertical devolution to the region.
- A number of centrally sponsored schemes have been rolled out where the obligation of State share is huge, adding to revenue expenditure.

- Sometimes the real burden is far more than the mandated 10%, Many centrally sponsored schemes are discontinued midway, and the burden of employee salaries falls on the States.
- The Northeast also bears a disproportionate burden of natural disasters every year on account of rainfall.
- The 14th FC disaster relief grants bore no correlation with vulnerability but were ad hoc extrapolations of previous allocations.

How 13th Finance commission approached N.E states?

- The 13th FC acknowledged the different position of the Northeast while arriving at the formula for horizontal devolution. Its twin guiding principles were equity and efficiency.
- It accorded 47.5% weight to fiscal capacity distance. Per capita GSDP was taken as a proxy for fiscal capacity.
- But States were divided into two groups, general and special category States, given that the average tax to GSDP ratio was higher for the former.
- Three-year per capita GSDP was computed separately in these two groups, weighted means of tax to GSDP ratio obtained, and per capita tax revenue was assessed for each State.
- Fiscal distance was thereafter calculated on estimated per capita revenue with reference to the highest State, which was then multiplied by the 1971 populations to arrive at the share of each State.

What factors needs to be considered?

- The disaster vulnerability index is highest for the Northeast, this needs to be factored in while allocating grants.
- The region also has the highest forest cover and represents the largest carbon sink nationally.
- Allocating 10% for forest cover would encourage States to preserve the forests.
- The Terms of Reference of the 15th FC also mention performance-based incentives based on improvements in GST collection, Direct Benefit Transfer rollout, etc, This would definitely infuse a spirit of competition.
- Thus the performance of the Northeastern States must be benchmarked with other North-eastern States and not with other states.

1.7 Concerns with Thoothukudi Firing

What is the issue?

Thoothukudi firing incident has to be treated as an early warning system for the emerging threats to Indian democracy.

How did the Sterlite struggle evolve?

- Sterlite stakes claim to be India's largest copper producer and is a major presence in Tamil Nadu's industrial mix.
- But the industry has been under the scanner for environmental violations since its inception in the 1990s.
- Significantly, the Supreme Court in 2013 had imposed an Rs.100-crore fine on Sterlite for pollution.
- As the nearby residencies started to face health and environmental issues, they had been protesting sporadically for many years now.
- But the proposal for the plant's expansion plan intensified protests about a couple of months ago and the situation has remained heated since then.
- TN government has claimed that the plant is currently not operational and that expansion has been stalled.
- But there was complete official apathy to convey this message unambiguously to the protesting masses, thereby attracting suspensions.

What are the concerns arising in this issue?

- One of the mains concerns in this issue is people look for democracy, while the state and Sterlite seek to subvert it.
- Thoothukudi has demonstrated this through the resilience of the bar and traders' associations which worked day and night to get arrested people released.



2. GOVERNMENT ACTS, POLICIES AND INTERVENTIONS

2.1 Delay in Citizenship (Amendment) Bill, 2016

What is the issue?

- The controversial Citizenship (Amendment) Bill, 2016, is not likely to be tabled in Parliament in the upcoming monsoon session.
- It has been stated that the “Joint Parliamentary Committee” would examine it further and holding wider consultations.

What is the bill mainly about?

- **What** - The Bill's argues that the aim is to help persons of Indian origin, who are facing persecution in the neighbourhood.
- It seeks to make it easy for illegal migrants (in India) from minority communities of 3 neighbouring countries to gain Indian citizenship.
- Consequently, “Hindus, Sikhs, Buddhists, Jains, Christians and Parsis” who've arrived from Pakistan, Bangladesh and Afghanistan stand to benefit.
- Significantly, Muslims aren't covered as they form the majority in these countries (even persecuted minority Muslim sects aren't covered).
- **Technicalities** - Under the present law, citizenship by naturalisation requires applicants to have stayed in the country for 11 years of the previous 14 years.
- The proposed amendment reduces the residency requirement to six years, apart from one full year of residency preceding citizenship approval.

Joint Parliamentary Committee (JPC):

- JPCs are ad-hoc parliamentary committees which are usually formed when a motion for it is adopted by one house and supported by the other house.
- Notably, presiding officers of both houses can also discuss and form JPCs, even without house resolutions.
- Significantly, Lok Sabha is always contributes 2/3rd members and Rajya Sabha contributes the rest 1/3rd.
- JPCs are constituted for specific purposes and they can hear from experts, public bodies, associations, individuals or interested parties to fulfil their task.
- Thus far, JPCs have been constituted for Bofors Scam, 1992 Stock Market Scam, 2G Scam, Soft Drink Pesticide Issue etc.

Why are some opposing the bill?

- Assam has been witnessing strong protests against the bill, as natives fear that non-Muslim migrants from Bangladesh might get citizenship.
- Once the migrants are granted citizenship, their political clout in Assam's politics will grow drastically, which might undermine the natives.
- The fear is mainly rooted in the sheer number of illegal migrants that are already residing in Assam's Barak Valley.
- Significantly, the ongoing exercise for updating of “National Citizen's Registry” (NCR) with its cut off date as March 24th 1971, runs contrary to the bill.
- The NCR exercise is a direct consequence of the “Assam Accord”, and is intended to identify illegal migrants from Bangladesh.

2.2 Adopt a Heritage Scheme

Why in news?

Various Heritage sites are to be adopted by a Monument Mitras under Adopt a Heritage scheme.

What is Adopt a Heritage scheme?

- It is an initiative of the Ministry of Tourism, in collaboration with the Ministry of Culture and the Archaeological Survey of India.
- Under the scheme government invites entities, including public sector companies, private sector firms as well as individuals, to develop selected monuments and heritage and tourist sites across India.

- Development of these tourist sites calls for providing and maintaining basic amenities, including drinking water, ease of access for the differently abled and senior citizens, standardised signage, cleanliness, public conveniences, etc.

How the scheme works?

- The sites/monument for this scheme will be selected on the basis of tourist footfall and visibility and can be adopted by private and public sector companies and individuals known as Monument Mitras for an initial period of five years.
- The Monument Mitras are selected by the 'oversight and vision committee,' co-chaired by the Tourism Secretary and the Culture Secretary.
- There is no financial bid involved and the corporate sector is expected to use corporate social responsibility (CSR) funds for the upkeep of the site.
- The Monument Mitras, in turn, will get limited visibility on the site premises and on the Incredible India website.
- The oversight committee also has the power to terminate a memorandum of understanding in case of non-compliance or non-performance.

What is the status of this scheme?

- The government looks forward that the scheme would help to increase tourist footfall and improve the infrastructure around the monument.
- So far, 31 agencies or Monument Mitras have been approved to adopt 95 monuments/tourist sites.
- MoUs has been signed for adopting Mt. StokKangri (in Ladakh), Trail to Gaumukh, (in Uttarakhand), Red Fort (in Delhi) and the Gandikota Fort (in Andhra Pradesh).
- This is a pretty small list, as the ASI protects 3,686 ancient monuments and archaeological sites, including 36 world heritage sites.
- Union government further intends to expand the 'Adopt a Heritage' scheme.

2.3 Challenges Before NHPM Scheme

What is the issue?

- Union government's PM Health Protection Mission is about to be launched in August 2018.
- There are various concerns about the scheme and its coverage which needs to be addressed.

What is PM health protection Mission about?

- Union government in the union budget announced the Pradhan Mantri Rashtriya Swasthya Suraksha Mission aka National Health Protection Mission.
- It promised to provide an annual health cover of Rs 5 lakh to 10.74 crore families.
- The National health Agency headed by a full time CEO will be the nodal agency for the implementation of the programme.
- States and Union Territories will devise their own modes of implementation, the one suggested by the Centre as a model is through state health agencies (SHA).
- State Governments will enter into arrangement with all other States that are implementing AB-NHPM for allowing sharing of network hospitals, transfer of claim & transaction data arising in areas beyond the service area.

What is the funding mechanism of the scheme?

- States use either an existing trust or society or not for profit company or a state nodal agency or can set up a new entity.
- The states are also free to continue with their own health programmes.
- Like in case of the National Health Mission, responsibility for the implementation of NHPM will lie with the states.

- The funding for the scheme will be shared 60:40 for all states and UTs with their own legislature, 90:10 in NE states and the three Himalayan states of Jammu and Kashmir, Himachal and Uttarakhand and 100% Central funding for UTs without legislature.
- Implementation in trust mode would mean a setup like the Central Government Health Scheme where bills are reimbursed directly by the government without any third party.
- In the insurance model the government pays a fixed premium to an insurance company which then pays the hospitals.

What are the challenges before the scheme?

- The initial NitiAayog estimate of Rs 1082 premium per family per year was rejected by insurance companies in the initial consultations when they held that nothing less than Rs 2500 is feasible.
- The Scheme draft document lays down that for a claim ratio of up to 120 percent states will not pay any additional premium.
- If the claim ratio is beyond 120% the state will pay 50% of the additional premium, the rest will have to be borne by insurance companies.
- Private hospitals are also arms against the package rates that have been announced.
- The 1350 packages that have been announced have been found to have lower than CGHS rates and private hospitals have made no bones about their unhappiness.
- Sector experts have been cautioning about potential moral hazard challenges in NHPM since it is essentially a tertiary care programme.
- For a scheme of this scale, the I-T platform is crucial but the IT infrastructure for this scheme is yet to be established.

3. SOCIAL ISSUES

3.1 Looking into Lynchings

What is the issue?

- The country is witnessing a series of incidents of lynching and targeted mob violence against vulnerable groups.
- The causes behind and the threats it impose calls for bringing in an anti-lynching law.

How does it affect the vulnerable?

- Violence against those looking overtly Muslim is a noted phenomenon.
- 86% of those killed in lynching incidents in 2017 were Muslims.
- An overwhelming majority of these attacks are bovine related.
- Nevertheless, there are other reasons for anti-minority attacks too.
- Hate violence has also happened around festivals such as Ram Navami provocations over azaan and namaz.
- The victims in cases of lynching are almost entirely from poor families.

Why is the recent trend worrying?

- **Small scale** - South Asia has a long history of communal violence.
- But these were primarily big episodes of mass violence.
- However, this has now given way to a smaller-scale of conflict, targeted at individuals.
- **Rumours** - Most of the attacks are based on rumours on cow slaughter or smuggling.
- The rumours circulating on social media often take shape as communal stereotypes.
- **Support** - The perpetrators are emboldened by the political prioritisation of a crackdown on cow slaughter.
- Moreover, vigilante violence against individuals is being endorsed by state inaction.
- It is possibly an attempt to avoid public scrutiny that accompanies mass violence.

- **Communalism** - The rising trend is also related to the intensification of communal polarisation.
- There is an increasing instrumentalisation of prejudice for political ends.
- Eventually, these have acquired a certain degree of legitimacy in the public mind.
- Popular anger, outrage and violence have become normal phenomena.
- **Threat** - Each event of violence has hardened the community boundaries.
- It has widened the divide between Hindus and Muslims.
- Unless checked, it can cause irreversible harm to the social fabric of the Indian society.
- It also impacts the political processes, especially electoral processes and the rule of law.

What are the legal shortfalls?

- Prevention and punishment of the perpetrators of mass violence and/or lynchings is weak.
- The police often stand by, careful not to interfere with the actions of the majority community.
- Both mobs and police have regularly treated victims of cow vigilantism as suspects.
- The law enforcement agencies act mostly against the victims themselves.
- They book them for violating cow protection laws, which act as a legitimate cover.
- As hate crimes grow, the sense of impunity also keeps growing.
- Lack of justice for victims further reinforces the vicious cycle of impunity.

3.2 Bridging the Gender Gap

What is the issue?

While there has been considerable progress in bridging India's gender gap, much remains to be done on the gender front, which calls for a prudent analysis of policy.

What is the status of "Gender Parity" in India?

- There are 63 million 'Missing Women' (not alive due to foeticide/infanticide) and 21 million 'Unwanted Girls' (explained below) in India.
- Economic Survey 2017-18 acknowledges that "Missing Women" is one of the most pressing problems faced by our country.
- Although the Survey finds improvement in a number of women empowerment indicators, it also shows how the skewed sex ratio has led to gender inequality.
- Not surprisingly, India ranks a poor 87th in the "Global Gender Parity Report", which is published by "World Economic Forum" (WEF).
- On "Women's Day", PM Modi had proclaimed female foeticide shameful and announced the expansion of "BetiBachao, BetiPadhao" scheme.
- In this context, it is important to reflect on the experience of the past 30 years of women centric policies and the progress made.

Are education campaigns paying off?

- The government has lately taken to information campaigns to usher in a behavioural change among the masses to bridge the gender divide.
- **Male Preference** - Statistics seem to imply that educational campaigns alone do little to reduce the deeply entrenched social idea of male preference.
- In fact, it is the more aware masses that are likely to engage in illegal sex selective abortions, to the extent that they are able to afford it.
- Further, "Health Index" released by the NITI Aayog shows that in recent years, the girl-to-boy sex ratio at birth has dropped in 17 out of 21 large States.



- Significantly, only in Bihar, Punjab and Uttar Pradesh has the sex ratio improved, implying the issue needs stronger initiatives than mere awareness.
- **Job Awareness** - Rigorous research has not been conducted to measure the impact of information campaigns on improving the sex ratio.
- But some randomised evaluation conducted by researchers affiliated to J-PAL has indicated some positive results regarding information campaigns.
- The study confirmed that spread of job related information improved female employment and reduced discrimination against girls.
- Additionally, such campaigns were also found to have encouraged parents to invest in their daughter's education and significantly delay their marriage.
- **Health Awareness** - Another J-PAL study found that HIV related awareness campaigns proved highly helpful in improving health metrics.
- These studies suggest the merit in including risk information regarding behavioural actions in campaigns that target improvements in sex ratio.

Missing Women

- This is a measure of women/girls who don't exist currently, but would've lived had it not been for the male preference in our society.
- These women/girls were either aborted during pregnancy or were killed as infants (infanticide), or died due to improper care after birth.
- Their number presently accounts to about 63 million in India and this was estimated by projections from the expected natural sex ratio at birth.

What has been the impact of "Cash Transfer Schemes"?

- Another common approach that governments take to encourage behaviour change and improve gender parity is "direct cash transfers schemes".
- Multiple State governments have implemented conditional and unconditional cash transfer schemes to motivate families to educate girls.
- The impact of cash transfer schemes on "sex ratio" isn't clearly understood, but such initiatives have definitely helped in bettering girl child education.
- The spill over effects of such schemes is felt in aspects like women's health, reduction in gender discrimination, and delay in marriages and child bearing.
- While many of these aspects are behavioural changes, reduction in fertility rates (fewer children), and male preference are also likely in the long run.
- Nonetheless, more rigorous evaluation is needed to establish and verify if the prediction are getting reflected on the ground.

Unwanted Girls

- Girls who were given birth by parents 'who were actually expecting a boy instead' are classified as unwanted girls.
- These girls are identified by studying the deviance in the gender of the last child born (which is predominantly a boy in India).
- This is because parents tend to prefer having a particular number of sons, the birth of whom marks the end of their need to reproduce.
- They keep attempting for babies until the desired number of males are attained, thereby any girl born in this quest for a boy is classified unwanted.
- The problem is that unwanted girls invariably face the risk of poorer care and larger family size, which curtails their overall life opportunities.

What are the emerging trends in family planning?

- The multiple pro-girl initiatives and financial support, government seems to have managed to ensure that women aren't perceived as a burden.
- But despite these, male preference however continues, as having a son was still valued far higher than that of a daughter.
- Interestingly, it has been predicted that, if family size reduction is promoted alongside, then pro-girl initiatives will have little impact in bettering sex ratio.

3.3 Implications of Caste-Census

What is the issue?

- With 2021 census approaching, the debate around having caste-based census has come up.
- It is essential to understand the implications that caste statistics would have in the country.

What was caste census's role in colonial times?



- Census of 1931 provides, to date, any information regarding the size and characteristics of various castes in India.
- Colonial Censuses, beginning with the first Census in 1871, included questions about caste.
- This generated an idea of homogeneous and classifiable community.
- It was used to divide and conquer India.
- This was done by first privileging Brahmins as interpreters of Indian culture.
- Slowly they were targeted as the roots of caste-based oppression and inequality.
- This classification was also a source of anti-Brahmin movements of 20th century.
- It thereby influenced the processes of political representation.

How does caste census impact society?

- **Society** - There are apprehensions that caste based census would further promote:
 - i. Caste-based political mobilisation
 - ii. strong sentiments for or against reservations
- Post-Independence Censuses have thus shied away from including questions about caste.
- However, Patels, Gujjars, Jats and Marathas do not seem to care about the lack of Census data as they demand reservations.
- Also, even without caste census, caste does play a role in elections in terms of vote banks.

Does caste census play a role in economy?

- Caste data from 1931 Census and a few special purpose surveys define certain categories.
- They include Dalits, Adivasis, OBCs and upper castes.
- It is assumed these broad caste-based social categories continue to shape economic conditions in 21st century India.
- However, each of these categories consists of thousands of jatis (castes) and upjatis (subcastes).
- Hence, without accurate data for each of these, the claim that it shapes economic conditions is baseless.
- Also, the society and economy, since 1931 census, has undergone various changes, crossing these caste boundaries.

What are the transformations since 1931?

- **Land** - Land ownership that perpetuated the power of upper castes has lost its hold.
- Land fragmentation and agricultural stagnation have turned many upper caste landowners into marginal farmers.
- Besides, rising rural wages, particularly construction wages, has made the landless better.
- **Poverty** - Broadly, mean consumption expenditure of forward castes is higher than that of Dalits.
- However, clusters of poverty persist among forward castes also, as per National Sample Survey (NSS).
- The bottom fourth of forward castes are poorer than the top half of Dalits.
- **Education** - India Human Development Survey shows that 56% of Dalit children aged 8-11 cannot read.
- But this is also the case with 32% of forward caste and 47% of OBC children.
- **Overall**, some jatis have managed to pull themselves out of poverty and marginalisation.
- While other groups have had a deterioration in their status.

What is the need for caste census?

- Economic growth and affirmative action by governments have changed relative fortunes of various groups.
- Hence, it is time to collect data that reflects the current situation.

- So the social apprehensions on implications of caste census are largely invalid.
- Without caste data, the discourse on caste and affirmative action are dominated by decisions made by the colonial administration.
- Collecting data on caste is now essential to rationalise the reservation policies.
- **Challenges** - Sometimes the same caste is spelt in different ways, or individuals report their jati and others upjati.
- This makes it difficult to create mutually exclusive categories.

What could the methodology be?

- There is nearly three years' time before the Census of 2021.
- Data from Socio-Economic Caste Census and technologies rooted in machine learning are at disposal.
- It would be possible to set up an expert group that uses the SECC data in conjunction with other data sources.
- Comprehensive list of castes can be made and condensed into meaningful categories via machine learning tools.
- These categories could then be validated by domain experts in various States.
- It can then be used to make a district specific list of castes that would cover more than 90% of individuals in any given district.
- Respondents can then be allowed to self-identify from the precoded list.
- The residual group's responses recorded verbatim could be categorised later.
- This is very similar to the technique through which occupational and industrial classification systems are created.

3.4 Brookings Poverty Report

Why in news?

- World Bank's Brookings Institute recently released a report titled 'The start of a new poverty narrative'.
- The report has highlighted India's improvement in moving down in the global poverty ranking.

What is the case with India?

- India had just 73 million people in the poorest of the poor index as of May 2018.
- This is a decrease from 125 million poor people found in 2016.
- As many as 44 Indians are being taken out of poverty every minute, which is the highest in the world.
- Importantly, the report says India is no more the country with most number of poorest people.
- Nigeria has overtaken India with the largest number of extremely poor people at 87 million in early 2018.
- India shot past China's 6.8% growth for the January-March quarter.
- This has enabled the country to retain its position as the fastest-growing major economy.
- If the positive growth pace continues, around 50 million more people will be out of poverty by 2022.

What is the trend in Africa?

- While poverty in India continues to fall, Nigeria is seeing a continuous uptick.
- Six people are being added every minute in the poor category in Nigeria.
- By 2018 end, in Africa as a whole, about 3.2 million more people may be in extreme poverty than there is today.
- If the trend continues, the African continent would account for nine-tenths of the world's extremely poor from two-thirds today.
- Shockingly, 14 out of 18 African nations are seeing a rise in extreme poverty.

- Democratic Republic of Congo could soon take over the number 2 spot as India continues to achieve high economic growth.

What is the global scenario?

- Sustainable Development Goals aims to end poverty by 2030.
- However, the world is far behind in achieving this target.
- Between 2016 beginning and July 2018, the world has seen about 83 million people escape extreme poverty.
- But it should have been about 120 million, if extreme poverty were to fall to zero by 2030.
- To get rid of this backlog of some 35 million people, countries now have to rapidly step up the pace.

4. GOVERNANCE

4.1 Lateral Entry into Government

Why in news?

The DoPT has issued a notification inviting lateral entry at joint secretary-level posts.

What is the current practice?

- Joint secretary level positions are normally filled by career bureaucrats.
- These are those who join the service after passing UPSC exam.
- UPSC prepares merit list and allot the different cadres like IAS, IPS, etc.
- The success of the announced lateral entry will greatly depend on transparency.
- Addressing potential conflicts of interest, and ensuring proper terms of engagement are crucial.

What is the new notification on?

- The government has invited “outstanding individuals” to join the government at the joint secretary level at the Centre.
- The Department of Personnel and Training (DoPT) has invited applications for 10 senior level positions.
- It covers the Departments of Economic Affairs, Revenue, Commerce and Highways among others.
- The intake will be made in 10 departments initially.
- It will expand to other categories in the second phase.

What are the specifications?

- The eligibility criteria includes individuals working at comparable levels in -
 - i. Private Sector Companies
 - ii. Consultancy Organisations
 - iii. International/Multinational Organisations
- They are required to have a minimum of **15 years' experience**.
- The recruitment will be on contract basis for **3 to 5 years**.
- The notification specifies a **minimum age of 40 years**.
- The minimum qualification is **graduation** from a recognised university or institute.

What is the significance?

- Joint secretaries are at a crucial level of senior management in the Government.
- They lead policymaking and implementation of various programmes and schemes of the department.
- They report to the secretary/additional secretary in the ministry or department.
- The idea of lateral entry of private individuals into the administrative framework is not new.
- However, the recent notification is the first move towards its implementation.

What are the benefits?

- A generalist was suited to the times when the state was the nerve centre of the economy.
- But in the course of time, the state started yielding to the market.

- A senior bureaucrat, thus, is expected to regulate the private sector as well.
- Moreover, the increasing complexities of policy-making have started to demand a level of specialisation in the fields.
- The move is thus aimed at bringing in expertise from the private sector individuals.
- It is a measure to infuse talent into the country's bureaucracy.

What are the concerns?

- **Understanding** - Neither the DoPT nor Ministries concerned cared to define 'domain expertise'.
- Most of the 10 posts open for lateral entry are generalist in nature.
- Therefore, domain expertise is salient only in a very narrow context.
- But clearly, there cannot be joint secretaries in all branches of a given Ministry.
- **Accountability** - Most democracies train their higher civil servants to be accountable rather than efficient.
- A civil servant is cautious of answering to a quo warranto writ against alleged action/inaction.
- In any case, a civil servant is expected to follow the decisions taken by the political executive.
- How far will this be practised by lateral entrants is doubtful.
- **Training** - Private sector experts becoming joint secretaries may be given a training or orientation.
- However, it may not match the 15-20 years of acculturation/on-job training that regular officers receive.

4.2 Replacing UGC with HECI

Why in news?

Union government has proposed to replace the University Grants Commission (UGC) with a Higher Education Commission of India.

What is government's plan on HECI?

- HECI will be the new, apex regulator for university and higher education in India.
- It has to set benchmarks for academic performance, ensure that institutions adhere to these and act against those that violate standards.
- Draft legislation appears to be part of a stated overarching strategy towards greater autonomy in institutes of higher learning, including the premier Indian Institutes of Technology and Indian Institutes of Management.
- The broad thrust of the Higher Education Commission legislation is to separate governance from funding.
- The proposed commission will focus on academic issues, such as course curricula, faculty standards and outcomes, leaving "monetary matters" to the ministry of human resource development.

What is the reason behind government's moves?

- UGC found to be an inadequate regulatory structure for higher education that has resulted in a visible deterioration in standards.
- The fund-granting process of the UGC and the technical education regulator All India Council for Technical Education (AICTE) has been plagued with allegations of corruption and inefficiency.
- Union government senses that Creation HECI offers a tremendous opportunity for the government to take a giant leap towards fixing a broken system at a time when the quality of human capital is increasingly determining the success of nations.

What are the concerns with government's plan?

- Setting minimum standards such as faculty qualifications and infrastructure will be only one part of the commission's mandate.
- The risk of political interference is the biggest challenge as the financial dispensation will, under the new scheme, be directly under government control.

- In regard with IIT and IIM, both sets of institutions have been granted a greater degree of autonomy in terms of board appointments, fee structures and admissions.
- But such autonomy went only so far; in January, the government proposed a new law establishing a Council of Institutes headed by the HRD minister.

4.3 Regulating Lobbying

What is the issue?

- Recently, the CBI alleged that AirAsia tried to influence India's international flying regulations through lobbyists.
- It is imperative to look at the varied issues in relation with the reality of lobbying.

What is lobbying?

- Lobbying refers to the practice of influencing the policy decisions of the government.
- It refers to the business classes' efforts to shape the policies to suit its needs.
- The decisions may be benign such as urging subsidies for electric vehicles.
- It could also be harmful like relaxing environment norms for coal-mining or having an impact on the national interest.
- Lobbying is an inescapable characteristic of any economy with a vibrant business ecosystem.
- This is particularly prominent in systems that function in a democratic polity.

How is lobbying in India?

- The secretive habits of the licence raj still linger in terms of opacity in policy-making.
- Amidst this, lobbying remains a grey area, which is neither recognised nor regulated.
- Yet, the irony is that governments are subject to lobbying for sure.
- There is absence of a specific statute or even "guideline" in this regard.
- This is making way for a range of illegal activities which are hard to detect or control.

How have governments handled this?

- Successive Indian governments have had middlemen in the defence business.
- The Bofors scandal of the mid-1980s resulted in a blanket ban on middlemen for defence purchases.
- However, middlemen still perform a service worldwide.
- They enable the governments to evaluate a range of choices and negotiate optimum deals.
- In 2014, the present government allowed middlemen back.
- But it was cautious with their re-entry, by specifying various conditions.
- These included delinking their commissions to the outcome of the negotiations.

How is it in other countries?

- In the US and some western European jurisdictions, lobbying is subject to disclosure statutes.
- They make it mandatory to register, declare their client lists, activities, fees and itemise expenditure.
- These disclosure laws do not eliminate corruption.
- However, they allow for a considerable level of transparency.
- They make it possible for journalists and the general public to access information.
- It provides on which lobbyists had been paid, by whom and for what cause.
- It also allows tracking the outcome in terms of policy-making.
- Evidently, many cases of corruption come to light simply by accessing public records.

4.4 Concerns with Corporate Governance

Why in news?



The board of ICICI Bank has acted on the allegations of misconduct against its CEO and managing director.

What are the misconduct issues in ICICI bank?

- ICICI Bank's troubles are rooted in a 2016 complaint by an investor alleging a quid pro quo deal between Bank CEO's immediate family members and the Videocon group which got a Rs. 3,250-crore loan from it.
- When this 'conflict of interest' complaint resurfaced in the public domain this year, chairman of board of directors of the bank personally inquired into it two years earlier and found nothing amiss.
- With the Central Bureau of Investigation and later the stock market regulator SEBI swooping in, the issue of whether the bank had failed to make adequate disclosures about its dealings with the borrower (who is now a defaulter) and a firm related to CEO's family member was spotlighted.
- The bank is yet to respond to SEBI, but changed tack after the latter decided to launch a probe into allegations of a quid pro quo and alleged misconduct by the bank's CEO

What were the actions taken by ICICI bank?

- The bank earlier maintained that the CEO was on annual personal leave.
- Recently the bank asked its CEO to stay away from the office till the completion of an inquiry into the charges levelled against her by a whistle-blower.
- Till the inquiry is complete the bank will be steered by a new chief operating officer.
- Meanwhile, the tenure of the chairman of the bank's board, is set to end this month and there is still no clarity on his successor, this extended uncertainty in a crisis situation is unwarranted.

What are the concerns with banks action?

- The board of ICICI Bank, an institution that often sought to hold a mirror up to the inefficiencies of public sector banks has delayed the process of inquiry.
- A probe panel to be led by retired Supreme Court judge to inquire the case has been appointed.
- It is debatable whether such a high-profile panel is required to ascertain if CEO, whose term ends next March had made adequate disclosures while deciding on the loans.
- The board itself could have dealt with this through an internal investigation rather than giving the impression that it wanted to paper over the issue, sending a poor signal to all stakeholders.
- Thus the strength of corporate governance practices in the bank has come under question because of the way the issue has played out.

5. HEALTH

5.1 Policy Responses to Tackle Obesity

What is the issue?

- In recent times Obesity in India has become a major concern.
- Policy measures needs to be taken in order to tackle the health challenges in India.

What are the prevailing nutrition challenges in India?

- In India 26 million children suffer from wasting (a low weight-for-height ratio), more than in any other country.
- India has the second highest number of obese children in the world 15.3 million in China and 14.4 million in India, an additional 2.6 million children will be obese in India by 2025.
- Rising obesity is putting pressure on already fragile health systems in India by posing a high risk of chronic diseases such as cardiovascular diseases, diabetes and some cancers.
- Research shows that Indians have higher levels of body fat and lower levels of lean muscle when compared to many other populations.

- In India there is compelling evidence that heart disease and diabetes impose high burdens of catastrophic health expenditure, result in a loss of livelihoods and crush people into poverty.
- With no insurance or personal savings, a heart disease diagnosis can compromise a person's wealth as well as health.

What measures has been taken by the government?

- To address the health concerns union government announced that it would release an annual "state of nutrition" report.
- The report would detail India's level of stunting, malnutrition and feature best practices for States to scale up nutrition interventions.
- India's high-level commission and a UN General Assembly meeting on NCDs are giving new life to existing evidence-based yet largely unimplemented plans of action.
- India looks ambitiously toward a universal health coverage system where everyone can access quality health services that are free of financial burden.

What measures needs to be taken?

- India's policy responses should include agricultural systems that promote crop diversity as well as regulatory and fiscal measures (to decrease the availability, affordability and promotion of unhealthy foods, while making healthy foods more accessible).
- For example, taking the lead from a directive by the Delhi High Court, India should ban the sale of junk food in and around schools.
- Obesity management, prevention and treatment should be provided as essential health services.
- India should link obesity and undernutrition and treat them as twinned challenges to be jointly addressed under the universal health coverage umbrella.
- By tackling obesity through prevention and early care, financially debilitating NCDs can be avoided.
- India will be in a better position to fulfil the promise of universal health coverage if it disrupts the cycle whereby poverty leads to NCDs and vice versa.

5.2 Decline in MMR in India

Why in news?

India has recorded a 22% drop in Maternal Mortality Rate (MMR).

What is MMR?

- MMR is defined as the proportion of **maternal deaths per 1,00,000 live births**.
- Maternal mortality is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy.
- The causes could be related to or aggravated by the pregnancy or its management.
- Complications during pregnancy and childbirth are a leading cause of death and disability among women of reproductive age.
- The maternal mortality ratio represents the risk associated with each pregnancy, i.e., the obstetric risk.

What are the recent findings?

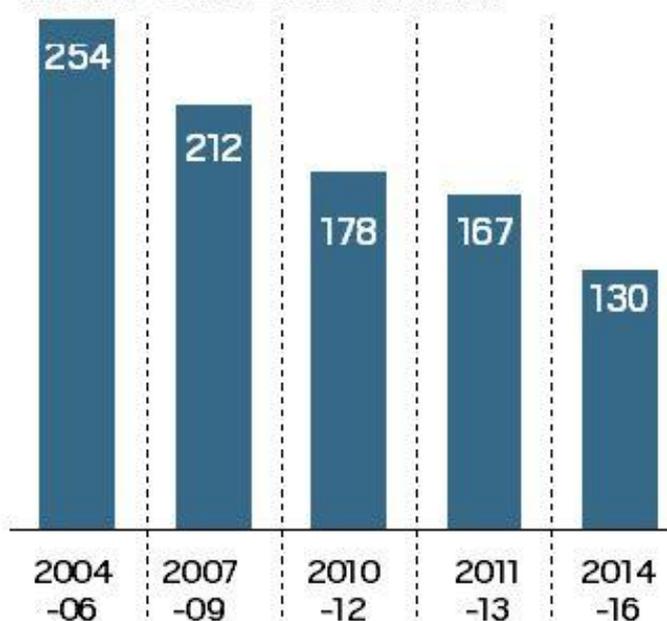
- MMR of India has declined from 167 in 2011-2013 to 130 in 2014-2016.
- The decline has been most significant in Empowered Action Group (EAG) states.

- These include Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Odisha, Rajasthan, UP and Uttarakhand.
- Besides, Assam has also registered a decline from 246 to 188.
- Among the southern states, the decline has been from 93 to 77 and in the other states from 115 to 93.

How has NRHM contributed to this?

- With **Janani SurakshYojna (JSY)** under National Rural Health Mission, institutional births nearly doubled.
- It increased from around 38% to 78% between National Family Health Survey III (2005-06) and NFHS IV.
- The web-based **Mother and Tracking System** tracked every pregnancy in the country since 2010.
- It sends messages to health workers and expectant mothers about ante-natal checkups, vaccinations etc.
- NRHM also allowed **auxiliary nurse midwives (ANMs)**.
- They administer antibiotics, intravenous fluids and drugs during emergencies under supervision.
- For Ceasarean sections, there are **first referral units (FRUs)**.
- FRU is a district or sub-divisional hospital or community health centre which has the facilities in this regard.
- The **Accredited Social Health Activist (ASHA)** attended to women who were not going to hospitals for deliveries.
- NRHM took efforts to increase the frequency of visits by ASHAs.
- The basic issue however was of improving standards.
- The incentive system of ASHAs was thus devised.
- It was ensured that they got good money only if they visited throughout the 9 months.
- Nutritional support through **anganwadis** was a major component.
- Besides these, the **Janani Shishu Suraksha Karyakram (JSSK)** was implemented.
- It entitles all pregnant women delivering in public health institutions to free delivery, including C-sections.

INDIA'S FALLING MMR



What are the continuing concerns?

- **Infrastructure** - A recent report highlighted a tribal woman in labour in Kerala being carried on a sling made of clothes.
- But Kerala leads in most health indices, including MMR.
- Thus, beyond indices, instances like the above underlines the need for basic physical infrastructure such as roads.
- **MDG** - India has made sustained progress in reducing maternal mortality.
- However, it missed the millennium development goal (MDG) of reducing MMR by 75% from 437 in 1990 to 109 in 2015.
- **NRHM** - Janani SurakshYojna (JSY) is one of the main strategies or policy shifts under NRHM.
- It is a conditional cash transfer scheme to motivate pregnant women for institutional deliveries.

- In better developed states of South India, it is limited to women below poverty line up to first two childbirths.
- But notably, maternal mortality steeply rises in grand multiparous women, delivering a child after third pregnancy onward.

5.3 Irregularities in Organ Transplantation

Why in news?

Some irregularities in connection with organ transplantations have been found in the state of Tamil Nadu.

How has TN been in organ transplantation?

- Tamil Nadu is a pioneer in orderly and transparent allocation of deceased-donor organs.
- It has worked consistently to eliminate commerce in kidneys procured from poor living donors.
- The Transplant Authority of Tamil Nadu has served as a model for other States.
- The state also offers a subsidy for poor patients for a liver transplant.
- Every effort must be made to ensure that it retains this high reputation.

NOTTO

- The National Organ and Tissue Transplant Organisation (NOTTO) functions under the Ministry of Health & Family Welfare.
- It is an all-India apex body for coordination and networking for procurement and distribution of organs/tissues and transplantation.

What is the recent finding?

- The Union Ministry of Health & Family Welfare has found some irregularities in organ transplantation in TN.
- Preferential allotment of hearts and lungs has been made to foreign patients.
- Hearts harvested from brain-dead patients were given to foreign nationals admitted to corporate hospitals.
- International patients get priority in cadaver transplants, bypassing long list of Indians.
- The Directorate General of Health Services convened a meeting and framed strict guidelines for allocation of organs to foreigners.

What is the procedure?

- The provisions are laid out in the Transplantation of Human Organs and Tissues Rules.
- State governments are expected to ensure that transplantations are done legally and ethically.
- Citizens enrolled in the State and national waiting lists are prioritised over foreign nationals.
- Organs go to the most suitable recipients on the rule-based parameters.
- It is offered to domicile, citizenship, Indian origin and foreign nationality, in that order.

What lies ahead?

- There must be an inquiry into how allocations for organ transplants are made in Tamil Nadu.
- Any inquiry should shed light on the factors that led to the decisions.
- It should importantly include whether registered citizens were overlooked.
- Hospitals and professionals engaging in commerce or unethical behaviour should be addressed.
- It has to cover such issues as the capacity of district-level hospitals to perform transplants.
- Arrangements to air-lift organs should also be addressed, since domestic patients are unable to afford flight facilities.
- Enrolling all domestic patients through State registries should be the priority for the NOTTO.

5.4 Cardiovascular Disease Risk

What is the issue?

Wealthier and more urbanised states tend to face a higher risk of cardiovascular disease (CVD).

What does the data reveal?

- Cardiovascular disease risk varies widely among states.
- Kerala faces the highest risk of CVD at 19.5%.
- Jharkhand has the lowest risk at 13.5%.
- CVD risk is found to be the highest in the Northern, Northeastern and Southern states.

What are the driving factors?

- In the North, Northeast and South, higher body mass index, hypertension, diabetes and smoking prevalence contributed to the risk.
- **Socio-economic** - There is high variation of risk factors, such as smoking and diabetes.
- This was influenced by adults' socio-demographic characteristics.
- BMI and blood glucose and blood pressure were associated with wealth and living in an urban area.
- Prevalence of high blood glucose and high BP was high in middle and old age among the poorer groups, and in rural areas.
- Smoking was more common in the poorer groups, in rural areas, and among males.
- It was most prevalent among males in the Northeastern states and West Bengal.
- **NCD & CD** - Non-communicable diseases (NCDs) and communicable diseases (CDs) have an inverse relation.
- E.g. states like Jharkhand have higher prevalence of CDs, while there is a low prevalence of NCD.
- Developed states have a higher NCD burden and lower CD burden.
- **Development** - Some states are at high risk of CVDs as they are ahead in development and have better healthcare facilities.
- In less developed states like Jharkhand, life expectancy at birth is less than in developed states like Kerala.
- Life expectancy is affected by disease pattern.
- **Lifestyle** - Lifestyle, dietary patterns and other factors have played a role in the variations.
- Another factor is obesogenic environment which promotes weight gain and is not conducive to weight loss.
- It includes higher urbanisation, walking less, using lift instead of stairs, and easy availability of high-calorie food.
- The data would help in allocating resources to prevent cardiovascular disease to the most in need.

5.5 Food Security and Nutrition in the World

What is the issue?

The UN's State of Food Security and Nutrition in the World report points to a worrying trend on food security at global level.

What are the highlights?

- Absolute numbers of people facing hunger and poor nutrition have always been high.
- However, there was a reduction in the rate of undernourishment since the year 2000.
- But that has slowed from 2013, registering a worrying increase in 2016.
- Around 815 million people endure chronic food deprivation in 2016, as against 775 million in 2014.
- The deprivation is greater among people in conflict-affected and climate change events affected regions.
- Contrastingly, the report says that child undernutrition rates continue to drop.
- However, one in four children is still affected by stunting.

What are the causes?

- The above numbers are averages and do not reflect the disparities among regions, within countries and between States.
- Nevertheless, the common factors making food scarce and expensive for many are:
 - i. the impact of the economic downturn
 - ii. many violent conflicts
 - iii. fall in commodity export revenues
 - iv. failure of agriculture owing to drought and floods
- The findings represent a setback to all countries trying to meet the Sustainable Development Goal
 - i. on ending hunger
 - ii. achieving food security
 - iii. improved nutrition

What is the case with India?

- India's efforts at improving access to food and good nutrition are led by the National Food Security Act.
- There are special nutritional schemes for women and children operated through the States.
- Despite these, 14.5% of the population suffers from undernourishment.
- At the national level, 53% of women are anaemic.
- Thus, Centre and State governments fall short on the commitment to end undernourishment.
- Institutions such as the State Food Commissions have not made a big difference either.
- Distributing nutritious food as a public health measure is still not a political imperative.

6. INDIA AND ITS NEIGHBOURHOOD

6.1 India at SCO Summit

What is the issue?

- India is to attend the Shanghai Cooperation Organisation summit as a full member.
- The summit gives India an opportunity to showcase the kind of power it wants to be.

What are the recent geopolitical developments?

- Both India and Pakistan were admitted to the grouping last year.
- This was finalised at its summit in Astana, Kazakhstan.
- From then, world politics has undergone several tectonic shifts.
- The US has pulled out of the nuclear deal (or **JCPOA**) between the P-5+1 and Iran.
- US President and **North Korean** leader are scheduled to meet in Singapore.
- After the Doklam standoff, **India and China** have attempted to reset relations.
- An informal summit was arranged between Indian PM and Chinese President at **Wuhan**.
- The US has imposed **sanctions on Russia** under the Countering America's Adversaries Through Sanctions Act (CAATSA).
- This notably affects Indian defence purchases from its strongest defence partner.
- The **chemical attack** in Salisbury has sharply escalated Russian-western tensions.
- It led to London and Moscow expelling each other's diplomats.
- The US has delivered a public rebuke to **Pakistan** for not cracking down on terrorists.
- It also suspended military assistance to Pakistan.

- Indian PM has made historic separate visits to **Israel and Palestine**, completing their de-hyphenation.
- The India-US-Japan-Australia **quadrilateral** has been revived.
- This is particularly against the backdrop of Chinese assertiveness in the Indo-Pacific.

What is the significance of the SCO summit?

- India has challenges to address and opportunities to harvest in the SCO summit.
- **Pakistan** - The summit provides an opportunity for the Indian and Pakistani leaders.
- They could meet informally on the sidelines of a multilateral event.
- The two sides are obliged to cooperate on issues of mutual interest without bringing in their bilateral disputes.
- Signing off on joint counter-terrorism exercises will be a new form of engagement between the two militaries.
- **China** - After the Wuhan meet, the SCO summit will provide another opportunity for cooperation.
- **Russia** - Russia has been India's staunchest supporter in the SCO.
- It has lobbied hard with Beijing for years to ensure India's entry into the grouping.
- India is clear that its relationship with Moscow would not be impacted by the West's approach towards it.
- **Iran** - Iran is an observer state that has applied for full SCO membership.
- India has a powerful strategic interest in Iran's Chabahar port.
- The US administration is hostile to Iran.
- But India has been seeking to signal to US, the alignment of interests in Chabahar.

What lies ahead?

- The "Shanghai Spirit" is the SCO's driving philosophy.
- It emphasises
 - i. harmony
 - ii. working by consensus
 - iii. respect for other cultures
 - iv. non-interference in the internal affairs of others
 - v. non-alignment
- SCO's main objective is working cooperatively against terrorism, separatism, and extremism.
- This notably coordinates well with India's interests as well.
- The SCO summit thus gives India an opportunity to showcase the kind of power it wants to be.

6.2 FATF Action Plan for Pakistan

Why in news?

Pakistan has been formally put on the grey list by the Financial Action Task Force (FATF).

What is the Financial Action Task Force?

- The FATF was set up in 1989 by the G7 countries.
- **Members** - With headquarters in Paris, FATF has 37 members.
- They include all 5 permanent members of the Security Council and other countries with economic influence.
- Two regional organisations, the Gulf Cooperation Council (GCC) and the European Commission (EC) are also its members.
- Saudi Arabia and Israel are "observer countries" (partial membership).
- India became a full member in 2010.

- **Objective** - FATF acts as an 'international watchdog' on issues of money-laundering and financing of terrorism.
- It is empowered to curtail financing of UN-designated terrorist groups.
- It can publicly sensor countries that are not abiding by its norms.
- It is to limit the concerned countries from sourcing financial flows internationally and thereby constraining them economically.

What is the recent decision?

- FATF earlier decided to place Pakistan in the grey list for inaction against terror funding.
- It has now unanimously agreed to put into effect the above decision.
- The move comes as a response for Pakistan's inaction against terror funding.
- The Financial Action Task Force (FATF) has laid out a 10-point action plan for compliance with its guidelines.
- Pakistan has been instructed to take measures and to demonstrate the action on guidelines given.
- UN-designated terrorists and banned terror outfits should be deprived of their resources.
- Also, their sources of funding are to be choked.
- The designated ones include Hafiz Saeed and Masood Azhar, Taliban and Haqqani Network, Jaish-e-Mohammad, Lashkar-e-Taiba, and their affiliates.
- If Pakistan fails to implement the action plan, it could be included in the black list the next year.

What are the guidelines?

- Pakistan will have to take steps to ensure that **terror funding risks** are properly identified and assessed.
- Also, it will have to ensure that **supervision** is applied on a risk-sensitive basis.
- Measures are to be taken to prevent **financial institutions** from indulging in money laundering and terror funding.
- It should take action against illegal financial operations, identify cash couriers and enforce controls on illicit movement of currency.
- It has been told to improve **coordination** between the provincial and federal authorities on combating terror funding.
- Enforcing effective **prosecution and conviction** of the designated persons, entities and their affiliates are specified.
- The FATF has also sought actions demonstrating effective implementation of **targeted financial sanctions**.

What is Pakistan's response?

- After 2012-15, this is the second time it has been grey-listed and is facing sanctions.
- The placement on the 'grey list' could hurt Pakistan's economy as well as its international standing.
- Pakistan had this time round made a high-level political commitment.
- It has agreed to work with the global watchdog and the Asia Pacific Group, of which it is a member.
- It would perceivably strengthen its anti-money laundering and counter terror-financing regime.

6.3 Criticality of RCEP for India

What is the issue?

- Recently, U.S. President Trump caused the G-7 meet in Quebec to end with deep fissures within the Western alliance.
- In this context, India must re-examine its position on global and regional trade architecture swiftly to leverage its growth potential.

What is the significance of RCEP?

- Considering the evolving world trade dynamics, simply relying on WTO or on existing trade connections is clearly an ineffective approach.
- Hence, deals like “Regional Comprehensive Economic Partnership” (RCEP), could prove critical for countries.
- Notably, RCEP is considered a major economic integration plan involving “ASEAN-10, China, South Korea, Japan, Australia, New Zealand and India”.
- Significantly, well trafficked trade routes pass through Southeast Asia, and the region’s economies are growing and vibrant.
- The RCEP grouping is also diverse as it includes both commodity exporters such as Australia and Indonesia and services hubs such as Singapore.
- Yet, despite these obvious advantages, Indian officials have expressed doubts on whether the RCEP will actually be in India’s interest.
- But, India needs to recognize that, if the RCEP deal proceeds without India, then, being left out would hit India’s trade competitiveness in the region.

Should India go ahead with RCEP?

- The main concern for India about RCEP is the involvement of China, which already accounts for 60% of India’s burgeoning trade deficit.
- While the fear of cheap Chinese imports is real, it shouldn’t be allowed to cripple the entire trade negotiations.
- Rather, India must reserve its right to place emergency anti-dumping measures if excess influx tends to occur.
- Additionally, studies show that Indian exporters aren’t taking full advantage of even the currently existing FTAs, which is a concern.
- Hence, better educating exporters and aiding them to access new markets that open up to them would be a better alternative than chucking trade deals.
- The rise of protectionism in U.S. (one of the few countries with which India has a trade surplus), implies that India needs to diversify its export markets.
- As other markets must be found, RCEP is no longer an optional for India, and hence shouldn’t be overlooked.

What is the way ahead?

- India needs to recalibrate from its current short-sighted approach, if it has to reap the potential of further integrating into the global system.
- India’s exports as a proportion of its GDP have stagnated, and for India to revive its exports and create jobs at home, it must reform structurally.
- Transformation of the domestic productive base and rendering it more competitive and export-oriented is the only rational option.

7. BILATERAL RELATIONS

7.1 Realigning India's Foreign Policy

What is the issue?

- The emerging multipolar world is becoming complicated for the binary choices and easy solutions.
- It is high time that India realigns its foreign policy, and its recent moves are indicative of this.

What is the emerging scenario?

- The world is facing power shifts, uncertainty and competition over geopolitical ideas and political models.
- India is at a unique geographical position at the rimland of Eurasia and at the mouth of the Indo-Pacific.
- India has slightly drifted towards the U.S. for the past decade.
- However, it is now rediscovering a posture and policy for a multipolar world.
- It is also taking greater responsibility for its own future and destiny.



- India's foreign policy is likely to be driven by a dual attention.
- It is the balance of power and order building in the continental and maritime environment around the subcontinent.

What are the recent developments?

- India is altering its approach to the Indo-Pacific and building deeper links with continental Eurasia.
- This was evident with the recent Shanghai Cooperation Organisation (SCO) summit.
- Prime Minister Modi's speech at the Shangri-La Dialogue in Singapore signals an evolving foreign policy.
- **World order** - Relationships with Russia and the US are based on overlapping interests in international and Asian geopolitics.
- It is emphasized that India would project itself as an independent power and actor across Asia.
- India would not be part of a closed group of nations or aggregate Indian power in a bloc.
- It will however chart out its own course based on its own capacity and ideas.
- India would stand on the side of principles, and not behind one power or the other.
- This is seen to be a renewed emphasis on non-alignment.
- The preferences are referred to as the "strategic autonomy".
- **China** - India-China relations is a complicated one, having "many layers".
- China's rise has undoubtedly increased the demand and space for India to increase its region-wide engagement.
- However, stability in the relationship is important for India and the world.
- **Indo-pacific** - India's role in the vast Indo-Pacific is no longer envisaged as a China-centric one.
- India does not see the Indo-Pacific Region as a strategy or as a club of limited members.
- It is nor a grouping that India seeks to dominate.
- India's engagement in the Indo-Pacific Region would rather be an inclusive one.
- It would entail pluralism, co-existence, open-ness and dialogue.
- India would prefer that the rules and norms should be based on the consent of all, not on the power of the few.

7.2 Significance of UNCITRAL Deliberation

Why in news?

India is about to participate in the deliberations at the United Nations Commission on International Trade Law (UNCITRAL).

What is the UNCITRAL deliberations about?

- Commercial disputes are resolved not only through courts and arbitration but also through mediation.
- The deliberations will consider how these settlement agreements in disputes in international commercial transactions will be implemented by courts in different countries.
- UNCITRAL has formulated principles on which countries should recognise and enforce mediation agreements arising from cross-border disputes.
- Once formalised, countries will have a consistent framework for enforcing mediation agreements made in other countries.

How UNCITRAL draft convention works?

- The convention will link laws adopted by countries to recognise domestic mediation and extend them beyond their boundaries.



- It defines mediation as a “process whereby parties attempt to reach an amicable settlement of their dispute with the assistance of a third person (the mediator).
- Courts of a country before which a mediated settlement agreement is brought must ensure implementation of the terms of settlement.
- The courts will allow a party to a settlement agreement to rely on this agreement as a defence in cases filed on the basis of disputes already settled by the agreement.
- When the settlement agreement comes up before the court for implementation or enforcement, the court will review it on the basis of certain conditions.
- Once the agreement has been reviewed, the court must enforce the agreement on the terms agreed, Courts can decline enforcement only on these conditions.
- The importance of the draft convention is in the identification of these conditions after careful deliberation.
- Mediated settlement agreements typically don't need court assistance for enforcement since the terms of settlement have been chosen and determined by the parties.

What are the existing concerns to India in dispute resolution?

- India has lost substantial earnings as a result of international disputes being taken for resolution outside the country.
- International transactions involve the application of different laws, by virtue of the persons from different countries being involved, or their undertaking a business in a third country.
- Due to this there are various policy gap on outcomes from the mediation process involving cross-border disputes.

How this draft convention will resolve India's issues?

- Strengthening the dispute resolution policies will encourage dispute resolution in India.
- By this definitive legal framework businesses will be encouraged to consider mediation in managing and resolving disputes that arise in their commercial transactions.
- This convention comes the certainty that settlement agreements through mediation will be acknowledged as a resolution of the dispute, and will be respected and enforced.
- The convention is opportune to India and will facilitate legal reform to ease dispute resolution.

7.3 Indo-US: COMCASA Agreement

What is the issue?

- A U.S. team visited India recently to sort out difference regarding “Communications Compatibility and Security Agreement” (COMCASA).
- The agreement would facilitate transfer of high-end U.S. technology to India, but there is feared that it would compromise on India's defence secrecy.

What is the COMCASA?

- COMCASA is meant to provide a legal framework for the transfer of communication security equipment from the U.S. to India.
- This would facilitate “interoperability” between their forces and potentially with other militaries that use U.S. origin systems for secured data links.
- Importantly, the U.S. has already made some tweaks from its conventional template for agreements in this regard, for accommodating Indian concerns.
- **Significance** - COMCASA is said to be part of a set of 3 agreements that the U.S. considers vital for a functional military relationship.
- Previously, India and U.S. signed the “Logistics Exchange Memorandum of Agreement (LEMOA)”, for mutual logistic assistance between their militaries.
- Negotiations on the third agreement, “Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA)”, have not yet begun.

Why is the U.S. pushing for COMCASA?



- U.S. officials state that India's armed forces are currently dependent on less secure, commercially available communication systems for surveillance.
- These platforms are, therefore a hindrance in real time data sharing with friendly militaries, and seamless interoperability during joint missions.
- Hence, they argue, COMCASA will facilitate the Indian military to use of high-end secured communication equipment from the U.S.
- Additionally, COMCASA is also said to be imperative if India is to get the armed version of the Sea Guardian drones from the US.

What are the stakes?

- **Benefits** - U.S. granted India the status of "Major Defence Partner" during the Obama's time, to facilitate transfer of high-end defence technology.
- Signing of the 3 foundational agreements would underline that status, besides making the transfer of American defence technology possible to India.
- **Risks** - New Delhi is believed to be concerned about intrusive access COMCASA would grant the U.S. to Indian military communication system.
- The violation of Indian sovereignty due to visits by US inspectors to Indian bases to inspect the COMCASA- safeguarded equipment weighs heavy.
- There is also a fear that a lot of Russian-origin and indigenous Indian military platforms may not be compatible with COMCASA.
- Also, such comprehensive agreements is politically risky for the ruling BJP as even the previous LEMOA (signed in 2016), created a political storm.

7.4 Strain in the Indo-US ties

What is the issue?

- In 2017, India and U.S. commissioned the "Finance and Defence Ministers 2+2 format for enhancing bilateral engagement.
- But a scheduled meet was called off recently and the format remains a non-starter, partly due to the straining of Indo-U.S. ties.

What are the stress points currently in the Indo-U.S. ties?

- U.S. administration recently enhanced sanctions against Russia and Iran in addition to pulling out from the Iranian Nuclear Deal.
- Further, Trump's toughening stand against countries and entities conducting business with "Iran and Russia" directly affects India.
- India has, in turn, tightened its engagement with Russia, China and Iran, with PM Modi advocating a course of "strategic autonomy".
- Indo-U.S. tensions have also been playing out amply in the context of bilateral trade, and even verbal exchanges are being exchanged.
- While their strategic relationship was recently upgraded to "major defence partnership", there hasn't been much progress here too.
- The 3 critical "foundational agreements", which are ideal for enhancing defence ties and procurements haven't moved ahead.

How is the South Asian strategy of U.S. evolving?

- Initially, there seemed to be perfect resonance between the Trump administration's outlook and Indian concerns in South Asia.
- Trump had gone public in lashing out at Pakistan for being soft on terror and threatened them with suspension of military aid.
- U.S. also managed to get Pakistan "grey-listed" internationally through the "Financial Action Task Force" for financing terror.



- Trump's Afghan policy placed emphasis on India's centrality in Afghanistan and sought to enhance India's role in regional security.
- But presently, there are sufficient indications that the U.S. is resorting to its older doctrine of Pakistan centric Afghan policy.
- Such change in outlook is likely to constrain India to a mere supplementary role and also deprive India of strategic options.

What are the perceptible changes in the U.S.-Pak equations?

- Recent months have seen a sharp betterment in Af-Pak relationship alongside an improvement in the U.S.-Pak ties.
- Multiple diplomatic visits by government officials of "U.S., Pakistan and Afghanistan" had been organised in successions.
- Additionally, the politically influential Pakistani military and the Afgani-Taliban have also been kept in the loop throughout.
- Concurrently, there has been a softening of U.S. line on Pakistan's overall terror record, all of which seems to be clearly coordinated.
- The U.S. has asked Pakistan to act against all terror groups on its soil, but it seems focused just on groups targeting Afghanistan.
- More importantly, terror groups and operatives targeting India are being provided a free run and are even fighting elections in Pakistan.

How does the future look?

- India has decided to go ahead with its Chabahar Port project in Iran despite U.S.'s position, but sanctions will be surely constraining.
- Additionally, India is likely to cave in to U.S. pressures on reducing oil imports from Iran, which might strain Indo-Iran ties.
- While it is a tight rope to thread, India has nonetheless been through such phases in the past and can be expected to manage through.
- But the fact that Indo-U.S. ties aren't robust like in previous occasions is indeed a cause of worry.
- Enhanced engagements with China and Russia are only expected to further strain matters over the next few months.
- Rescheduling the 2+2 at the earliest is hence vital for both New Delhi and Washington, if ties are to be normalised.

8. INTERNATIONAL ISSUES

8.1 US Sanctions and Iran's Nuclear Plans

What is the issue?

- Iran has notified IAEA of its nuclear enrichment plans.
- Iran should cooperate with Europe and China to work around U.S. sanctions.

What is Iran's stance?

- Iran said that it was in "preparatory works" to restart nuclear activities.
- This is in the event of the failure of the 2015 accord.
- In such a scenario, Iran could restart its activities without any limits.
- The preparatory works mentioned refer to steps to boost uranium enrichment capacity by producing new centrifuges.
- In addition, it had notified of a plan to restart activity at its uranium conversion facility to produce the UF₆ feedstock for centrifuges.

What are the other developments in this regard?

- France, Britain, Germany and the EU have sent a joint official request to the U.S.
- It asks for their companies to be exempt from punitive measures resulting from fresh U.S. sanctions on Iran.
- It calls for exempting European businesses doing legitimate trade in Iran from all extraterritorial American sanctions.

What are the implications?

- Iran's notification illustrates the risks associated with the recent U.S. withdrawal from the nuclear deal.
- According to the deal, Iran can enrich uranium, but under tight restrictions.
- It would not be technically violating the agreement as long as it does not produce centrifuges.
- But the move to open a production facility could be seen as a provocative step by the remaining parties to the agreement.
- The other signatories to the deal said they remain committed to the agreement.
- But they are yet to come up with a framework to continue the deal.
- The latest Iranian announcement could pressurise the European powers.
- They are forced to come up with guarantees that the deal's benefits will be in place even with U.S. sanctions.

8.2 Singapore Summit – Korean Detente

What is the issue?

- U.S. president Trump and North Korean leader Kim have stunned the world by pulling off a summit at Singapore despite intense tensions a while ago.
- Presently, there are clear indications that the looming detente might seal a permanent peace in the Korean peninsula.

What were the recent flare-ups?

- Till recently, North Korea kept stepping up its weapons program through nuclear tests and also enhanced its missile capacity.
- Notably, with Hwasong 14 missile (10,000 km range) in North Korea's arsenal, Kim was said to have the capability to strike even mainland U.S.A.
- In this backdrop, a missile attack by North Korea on Guam island of U.S.A in the Pacific Ocean was also rumoured.
- In 2017, the heightened rhetoric on both sides had led to growing concerns about the possibility of a nuclear war between North Korea and U.S.
- While the UN Security Council met repeatedly, and tightening economic sanctions on North Korea, Trump was also vociferous in his threats.

How did the thaw begin?

- Mr. Kim in his New Year's address appealed reconciling with South Korea, while also stating that North Korea had sufficient nuclear deterrence capacity.
- South Korea also hosted the Winter Olympics, which provided ample opportunities for building bonhomie between the two Koreas.
- Things moved smoothly thereafter and officials of the two Koreas crossed borders for high-profile meetings, which proved fruitful.
- Kim also indicated continued restraint on testing and willingness to discuss denuclearisation of the Korean peninsula if regime safety was guaranteed.
- While the U.S. was kept in the loop throughout, there seemed to be considerable resistance from the Trump administration for any conciliation.
- A summit was planned but it was then called off unilaterally by the U.S., but persistent efforts from North Korea finally led to restarting of the summit.

- Notably, previous attempts by the U.S. to negotiate North Korea to give up its nuclear program and arms failed despite consistent negotiations.

Why is the current peace effort unique?

- Since the previous negotiations, the capabilities of North Korea has grown multiple times, while has lead to increased anxieties in its neighbourhood.
- While Kim's administration seeks regime legitimacy and security, the other stakeholders seek safety and peace.
- In this context, it is in everybody's interest to help in the success of the proposed deal, thereby making things clear.
- While the joint statement after Singapore summit was shy on detail, it carries immense potential for the future of the Korean Peninsula.
- Notably, North Korea has announced stoppage of any kind of testing and has even promised a complete elimination of its nuclear arsenal permanently.
- There is hence real promise of ending the Korean conflict between the North and South Korea – which is currently still held by the 1953 truce.
- U.S. has also called off any joint military exercise in the Korean region and lifting of economic sanctions on North Korea is also under consideration.

8.3 Columbian Peace in Jitters

What is the issue?

- Columbian peace was negotiated by outgoing president "Juan Manuel Santos" and FARC leadership (communist rebels), which ended the 50 year civil war.
- But the election of rightist Iván Duque as Colombia's next President has raised concerns on the sustainability of the deal.

What is the changing political dynamics in Columbia?

- The current election was the 1st since peace was negotiated with the FARC Marxist guerrillas in 2016.
- The poll saw 'Iván Duque' (a political novice) beat 'Gustavo Petro' (an erstwhile insurgent), by a whopping 12% margin.
- Mr. Duque's victory will consolidate the conservatives further in the Congress, where the centrists led by current president 'Santos' are already weakened.
- Duque's economic agenda is also clearly rightist - he proposes to cut corporate taxes and promote a better investment climate in the oil sector.
- He is a protégé of the former conservative President Álvaro Uribe, and is backed by Uribe's "Democratic Centre party".
- Duque's team and his backers are openly cynical of the peace deal and already decry the amnesty given to the rebels.

What are the challenges ahead?

- There has been a steady marginalisation of centrist forces, leaving the field open to the extremists on both ends.
- While the peace accord provided for FARC to contest elections, violent attacks on FARC candidates forced them to withdraw from the presidential race.
- Subsequently, FARC also suspended its campaign for the congress, an action that is seen as a precursor to the total collapse of the deal.





- It is also saddening that the judicial and other institutional mechanisms to advance the objectives of the deal are still not in place.
- A return to the brutal and protracted civil war is to nobody's favour, and hence policy makers need to show more rationality for sustained reconciliation.
- In this tense political context, it is critical to appreciate the efforts of Mr. Santos who leaves behind a legacy of courage to advance a tough deal.

8.4 Ending Separation of Immigrant Families - US

Why in news?

Trump has signed an executive order to end separation of immigrant families on the US-Mexico border.

What was the separation policy?

- This was part of Trump administration's "zero-tolerance" approach to dealing with undocumented migrants.
- It involves separating children from undocumented migrant parents.

What is the legal backing for this?

- There is no single U.S. law requiring families to be separated.
- But there are loopholes in legislations leaving way for two legal provisions:
 - i. a law against "improper entry by aliens" at the border
 - ii. a decree known as the Flores settlement
- The first law makes it impossible to suddenly deport certain vulnerable categories of migrants.
- These include families, asylum-seekers and unaccompanied minors.
- To overcome this, Bush and Obama administrations adopted the policy of "catch and release".
- Under this, migrants would be released from custody pending their deportation case adjudication.
- Family separation was unnecessary at that time.
- But under the zero-tolerance approach, all undocumented migrants are charged in criminal courts.
- Here, the Flores settlement applies.
- This is because it limits to 20 days the length of time migrant children may be held in immigration detention.

Why is the policy reversed now?

- While their parents face charges, the children are transferred to a different location.
- Separation leads to devastating consequences for the families.
- They remain in the custody of Customs and Border Protection personnel.
- Recently, disturbing images and videos of struggling children have emerged.
- In particular, there was a disturbing audio allegedly of crying children at one such unit.
- There was widespread protest about the ethics of using children to discourage further undocumented border crossings.

What is the present order?

- The order does not end the "zero tolerance" policy.
- It still calls for criminal prosecution of immigrants crossing the border illegally.
- However, now the illegal immigrant families would be detained together.
- It also moves parents with children to the front of the line for immigration proceedings.

What are the concerns?

- There are mixed reactions to the executive order, with significant concerns being highlighted.
- The President's Executive Order seeks to replace one form of child abuse with another.
- It may pave the way for the long-term incarceration of families in prison-like conditions.



- Instead of protecting traumatised children, it may place them in more disturbing conditions.
- It may indeed be a continuation of violation of children's human rights.

8.5 OPEC Meet

Why in news?

The Organization of the Petroleum Exporting Countries (OPEC) met recently in Vienna.

What was the mandate?

- OPEC members agreed in 2016 to a historic deal to cut output by 1.2 million barrels a day.
- This was to end a supply surplus, and raise the price of oil.
- Following this there was a dip in productions.
- It was further worsened by outages in countries such as Venezuela and Libya.
- The production cut contributed to the steep rise in oil prices.
- Emerging markets such as India have been affected by the rising cost of oil imports.
- The OPEC meet was thus aimed at arriving at an agreement to increase oil output.

What is the outcome of the meet?

- OPEC agreed to increase its daily output to address the problem of rising crude oil prices.
- Saudi Arabia announced that the cartel's output would be increased by about a million barrels a day.
- However, the group's official statement did not mention any solid numbers.
- It said that the OPEC countries would strive to adjust production levels.
- There is thus lack of any clear commitment from OPEC to raise production.
- This suggests that the threat of a supply shock still continues.

What are the implications?

- Iran has been opposed to raising OPEC output as it would lower the prices.
- Iran is thus set to suffer a marginal loss as it lacks spare capacity to ramp up production.
- It works in favour of its rival, Saudi Arabia.
- The present deal could help the Saudis appease major oil consumers to some extent.
- Saudi can recover from the impact of lower prices by capturing market share.
- It is to be seen if all this politicking will bring a stable reduction in global oil prices.

G.S PAPER III

9. ECONOMY

9.1 Concern's with Air India Disinvestments

Why in news?

The deadline for submitting Expressions of Interest ran out and there were no bidders for India's flag carrier Air India.

What was government's plan on Air India disinvestment?

- In June 2017, Union government announced its intention to divest a controlling stake in Air India.
- As a response unsolicited interest poured in from airlines and various ground handling firms, both domestic and international, for specific pieces of the flag carrier.
- On March 28 this year, the government came out with a preliminary document seeking bids.
- In 19 days that followed, it received over 160 queries from various parties seeking clarifications about the disinvestment process.

- But after all this activity, the government recently announced that at the end of the deadline for submitting Expressions of Interest (EOIs), it had received no bids from any entity to acquire 76% stake in Air India.

What are technical difficulties involved in air India bidding?

- Air India has Rs 33,000-crore debt that was to be bundled with the firm which is seen to be a major hurdle.
- AI has the largest number of employees per aircraft among Indian airlines.
- AI had 26,978 employees (including permanent, contractual, casual, and on-deputation staff) which is 234 employees per aircraft.
- The employees-per-aircraft ratio is a key metric used in the industry to identify the operational efficiency of an airline.
- But eventual reduction of contractual employees was one of the measures to be undertaken by Air India as part of its turnaround plan.
- For which the successful bidder will have to plough significant funds into enterprise-wide restructuring, requiring capital expenditure in enhanced products and services, as well as fleet expansion.

What conditions of the government averted the bidders?

- It is believed that government's decision to retain 24% stake that ultimately proved to be the big deterrent.
- In clarifications sought by interested bidders, government failed to outline its financial objectives and also to explain any non-financial objectives for which the retention of a stake is considered to be important.
- The Union cabinet's approval for strategic disinvestment includes only few areas of airline operations and not the complete operations of the airlines.
- Returning the carrier to profitability is likely to take at least 2-3 years, during which time the new owner will have to absorb a couple of billion dollars of losses.
- Thus, this leave open the prospect of political interference on strategic and day-to-day matters of the airline operations.

9.2 Hike in Repo Rate

Why in news?

The Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) recently raised the repo rate.

What is RBI's recent move on repo rate?

- Repo rate is a short-term lending rate at which it lends money to commercial banks by 25 basis points.
- Recently Reserve Bank of India has increased the repo rate as a mandate to check rising prices.
- By this hike central bank now expects average inflation to be 4.8%-4.9% in the first half of 2018-19, and 4.7% in the second half of the financial year.
- The rate hike appeared to be a precautionary move against the backdrop of global volatility in crude and elevated commodity inflation worldwide.

What are the reasons behind this move?

- The rate hike was clearly prompted by the upside risk to inflation projections on account of sharper-than-expected uptick in both headline inflation and core inflation (inflation excluding food and fuel components).
- Government data released earlier had recorded core inflation at 5.92% and general CPI (Consumer Price Index) inflation at 4.58% in April.
- Another major upside risk is the sharper-than-expected 12% increase in the price of the Indian crude basket (\$ 66 per barrel to \$ 74) since April.
- The impact of an increase in house rent allowance (HRA) for central government employees has also been factored into the inflation estimates this fiscal.

What are the concerns with this move?

- RBI's move is contrary to the broader market expectation that the RBI would hold rates while revising its stance from 'neutral' to 'tighten'.



- The decision to retain the ‘neutral’ stance despite the rate hike was also unexpected.
- A ‘neutral’ stance essentially implies that options remain open as uncertainty continues on the inflation trajectory.
- Apart from these factors analysts also predict that if the 50% plus MSP is announced, it could increase rice MSP by 18%, adding to the upside risks.

What is the market response for this move?

- The market started off flat, surged in the last trading hour following the MPC announcement, possibly indicating that investors had priced in the rate hike.
- Despite RBI policy rates on hold for the last 10 months, both market interest rates and bank lending and deposit rates moved up, indicating an implicit tightening of financial conditions.
- With RBI raising the repo rate, banks are likely to pass on the burden to consumers, which means education, home, auto and other loans could get costlier.
- The hardening of market interest rates in India mirrors the trend in Asia, where a number of central banks have raised policy rates in response to weaker currencies and tighter global capital flows.

9.3 Securing Fugitive Offenders

What is the issue?

- Fugitive Offenders are those who’ve migrated elsewhere to escape prosecution in a particular jurisdiction.
- India has moved the UK for extradition of Vijay Mallya, and Interpol for a ‘Red Corner Notice’ (RCN) against Nirav Modi (also in UK soil).

What is the progress in the Nirav Modi case?

- UK authorities have confirmed that Nirav Modi is residing in their soil and India has sought an RCN from Interpol to restrict his movement.
- But RCN alone can’t bring him back to India, as that requires India to send an extradition request to UK.
- Extradition would involve a legal process where the accused is provisionally arrested and a case is initiated to validate charges against the accused.
- Contrarily, if UK authorities agree to deport him, then the accused can be secured without a trial and the lengthy extradition process.

What are the rules for provisional arrest and extradition?

- India’s treaty partners – which include the UK – have an obligation to consider requests for provisional arrest.
- In the absence of a treaty, India can still make a request, which the other country will decide in accordance with its laws.
- This may be followed by a detailed presentation requesting extradition.
- The concerned law enforcement agency in India prepares the request, which is then forwarded to the concerned authority of the other country.

What offences are covered under extradition treaties?

- Most treaties seem to follow at least five principles:
 - Extradition applies only to offences stipulated as extraditable
 - The offences must be covered under the national laws of both countries
 - The requested country must be satisfied of a prima facie case
 - The person must be tried only for the offence specified in extradition
 - There must be a fair trial.

What is the nature of the India-UK Extradition Treaty?

- It was signed in 1992 and has been in effect since 1993.

- As per Article 2, an extradition offence is one which, under the laws of each state, entails imprisonment for at least one year.
- Presently, 10 cases of Indian fugitives are said to be living in UK and their cases are pending in various stages.
- Significantly, UK authorities have previously rejected Indian extradition requests in as many as 6 cases by citing the lack of a convincing case.
- More strikingly, despite the numerous requests, India has extradited only one person named “Samirbhai Vinubhai Patel” from UK thus far (in 2016).
- From the UK’s side, it has been seeking the custody of 17 people through extradition from India – but has successfully extradited only 2 people till now.

With which countries does India share extradition treaties?

- India currently has extradition treaties with 48 countries including - US, UAE, Hong Kong, France, Germany, Netherlands, Spain, Switzerland and UK.
- India has worked extradition arrangements with Croatia, Italy, Sweden, Fiji, Italy, Thailand, Papua New Guinea, Singapore, Sri Lanka, and Tanzania.
- Notably, apart from Samirbhai Vinubhai Patel from the UK, only four fugitives have been extradited to India from various countries since 2014.
- But significantly, during 2002-13, 54 terrorists and other fugitives were extradited to India from multiple countries.

9.4 Financial Stability Report - RBI

Why in news?

Reserve Bank of India has recently released the financial stability report.

What are the highlights?

- **NPA** - RBI report warns that the gross non-performing assets (GNPAs) could rise.
- The *GNPAs* of scheduled commercial banks could rise from 11.6% in March 2018 to 12.2% in March 2019.
- This would be the highest level of bad debt in almost two decades.
- It is more worrying for *GNPAs* of banks under *prompt corrective action framework*.
- It is expected to rise to 22.3% in March 2019, from 21% in March 2018.
- **Capital** - *GNPAs* will increase the size of provisioning for losses and affect banks' capital position.
- The capital to risk-weighted assets ratio of the banking system as a whole is expected to drop.
- It could come down from 13.5% in March 2018 to 12.8% in March 2019.
- **Bank frauds** - RBI notes that more than 85% of frauds could be linked to PSBs.
- But, their share of overall credit is only about 65%.
- The PSBs are far more prone to fraud than the private banks.
- This is significant in light of the recent Punjab National Bank scam.
- It is possibly due to the corporate governance issues in public sector banks.
- This also largely contributed to the weak lending practices, the core of the NPA crisis.

What are the concerns?

- **Banks** - NPA crisis has affected the banking system and impeded credit growth in the economy.
- It was expected to be reaching to the lowest levels.
- But RBI report comes as a caution to the health of the banks and the economy.
- **Economy** - Economy has registered a healthy growth rate of 7.7% in the recent quarter.
- The deteriorating health of banks is in contrast to the recovering economy.

- **External risks** - The RBI, however, has warned about the rising external risks.
- It poses a significant threat to the economy and to the banks.
- Credit has already started to flow out of emerging markets such as India.
- This is due to the
 - i. tightening of monetary policy by the US Federal Reserve
 - ii. increased borrowing by the U.S. government
- **Prices** - The increase in commodity prices is another risk on the horizon.
- This could pose a significant threat to the rupee and the fiscal and current account deficits.
- All these factors could well combine to increase the risk of an economic slowdown.
- It could, in turn, exert pressure on the entire banking system.

What is the way forward?

- RBI expects improvement in the capital position of banks with
 - i. the government's recapitalisation plan for banks
 - ii. the implementation of the Insolvency and Bankruptcy Code
- But beyond these, government should consider changes to aspects of operational autonomy and the ownership of PSBs.
- The governance reforms at PSBs, if implemented, can help improve their financial performance.
- It could also reduce their operational risks.

9.5 LIC to Buy a Stake in IDBI

What is the issue?

- The government is proposing to sell a portion of its stake in IDBI Bank to LIC.
- The idea of routing policyholder funds into a worst-performing public sector bank has raised some concerns.

What is the proposal?

- The government is mulling a proposal to sell around 40-43% stake in IDBI Bank to LIC.
- State-owned Life Insurance Corporation (LIC) of India may buy a controlling stake in IDBI Bank.
- LIC is currently the largest public shareholder of IDBI Bank with a stake of 10.82%.
- If it buys another 43%, its total stake in the state-run IDBI bank will be around 55%.
- The stake sale will fetch the government between Rs 10,000-Rs 11,000 crore.

Is this the first time?

- LIC has pledged its support to Centre's disinvestment of New India Assurance and General Insurance Corporation of India last year.
- This is already costing LIC dear.
- LIC has time and again been used to rescue capital-starved PSU banks.
- It has been subscribing to banks' risky Basel-compliant bonds over the years.
- It has also often been bailing out the Centre by mopping up shares of public sector enterprises even in declining markets.

What are the concerns?

- LIC is arguably the country's largest public insurer.
- It has a balance sheet of about ₹ 28-lakh crore as of December 2017.
- Given this, infusing a couple of thousand crore is unlikely to cause any serious harm.

- **Capital infusion** - But, there is concern with the Centre's massive ₹ 10,600 crore bank capital infusion.
- Notably, this has not been enough to meet the capital requirements of the bank.
- Post capital infusion, the bank's Tier I capital ratio should have jumped by about 400 basis points.
- Instead, the Tier 1 capital at 7.4% as of March 2018 barely meets the mandated requirement of 7.37%.
- It is clearly because of the sharp rise in provisioning for bad loans.
- **Taxpayer's money** - The move throws good taxpayers' money after bad.
- It places LIC to perform the rescue act, seemingly an ill-conceived solution.
- Notably, tackling a deeper structural issue is the need of the hour.
- This is the case, not just in IDBI, but the entire banking sector.
- **LIC** - The string of investments by LIC has about 29 crore policies in force.
- The recent move raises questions on LIC as a prudent money manager for its policyholders.
- It also raises doubts over
 - i. the existing internal investment policies, if any
 - ii. the overall risk to the insurer's portfolio and its aggregate exposure to sectors and stocks
- The lack of disclosures and opacity in LIC's investment portfolio add to these concerns.

9.6 Weakening Rupee

Why in new?

Rupee crashed to a lifetime low of 69 against US Dollar.

How is the rupee trend?

- Rupee was pushed to a life-time intraday low of 69.10 a dollar.
- The rupee is the worst-performing currency in Asia this year.
- It has lost almost 8% in value since January 2018.
- The rupee's previous historic low was in November 2016 (it plunged to 68.86).
- It is, however, not the only currency to be in the weakening trend.
- Emerging market currencies as a group have witnessed a sharp correction in their value against the dollar this year.

What are the causes?

- The rise in international **crude oil prices** is one of the reasons.
- Importers have had to shell out more dollars to fund their purchases.
- The rise in global trade tensions amidst the ongoing **trade war** is another factor.
- But its impact on the rupee remains unclear as of now.
- But by far the most important reason is the tightening of **U.S. monetary policy**.
- Investors attracted by higher yields in the US have been pulling their capital out of India.
- Also, **China** has been **depreciating** its currency (yuan).
- This is to offset the effect of duties imposed by the US.
- The Indian unit also seems to be moving in tandem with the yuan so that exporters don't lose out.

What will the implications be?

- **CAD** -India's CAD jumped to 1.9% of GDP in the fourth quarter of 2017-18 from just 0.6% a year earlier.
- It is now expected to widen to 2.5% in FY 2019.

- This could impact the rupee as the demand for dollars could turn out to be overwhelming.
- But although current account deficit has widened, it remains modest relative to GDP.
- Also, it is largely financed by equity inflows, including foreign direct investment.
- **External risks** - Moody's Investors Service has ruled out any risk with this development.
- India's large and relatively stable domestic financing base restricts its external vulnerability.
- It will contribute to the economy's resilience by protecting from abrupt changes in external financing conditions.
- **DebtAffordability** - Currency depreciation transmitting into materially weaker debt affordability is limited.
- This is because of India's low dependence on foreign-currency borrowing to fund its debt burden.
- India's significant build-up of foreign exchange reserves in recent years to all-time highs provides a support buffer.
- This will contribute to mitigating the external vulnerability risk.

9.7 Concerns about Role of DICGC

Why in news?

About 19 Public sector banks have declared net loss for the year ended March 31,2018.

What are the recent happenings in the Public sector banks?

- 19 PSBs have declared net loss for the year ended March 31, 2018. Only two banks could declare net profit during this period.
- Depositors were much concerned about this fact and rumours about the safety of deposited money in Public sector banks.
- To address this issue Union Finance minister declared that government stands fully behind public sector banks and the deposits in PSBs are 100 per cent safe.
- Though people are aware that the government is there to rescue PSBs, this reassurance is required as all sorts of rumours are being floated by vested interests.

What is deposit insurance scheme all about?

- Deposit insurance does not cover 100 per cent value of all the deposits, however, the same comfort level cannot be there for private sector and cooperative banks.
- Deposit Insurance and Credit Guarantee Corporation (DICGC), a wholly owned subsidiary of Reserve Bank of India was in operation since 1962 for this purpose.
- The Corporation insures all bank deposits, such as savings, fixed, current, and recurring.
- There are some exceptions like deposits of foreign governments, deposits of Central/ State Governments, deposits of State Land Development Banks with State co-operative banks, and inter-bank deposits.

What was the role of DICGC?

- Originally, the DICGC was providing coverage for small loans as well and it was using the premium collected for deposit insurance to settle claims under small loans for many years.
- But as no credit institution was participating in any of the credit guarantee scheme administered by the Corporation, the scheme was discontinued in April 2003 and deposit insurance remains the principal function of the Corporation.

Why the role of DICGC need to be reviewed ?

- DICGC stipulates that only banks should pay the insurance premium and it cannot be collected from depositors.
- From various reports it is clear that the insurance premium collected from PSBs is being utilised to settle the claims of cooperative banks.
- It is a known secret how funds of cooperative banks are misused by politicians across States with immunity.

- Apart from this the major ownership of PSBs is with the government, which has got the capacity to enable banks to repay the deposits, here the role of DICGC's deposit insurance scheme is dubious.

9.8 Concerns with IBC Amendment

Why in news?

Union Cabinet approved amendments to the Insolvency and Bankruptcy Code, 2016 (IBC).

What is the significance of IBC ?

- Insolvency and bankruptcy code 2016, was introduced to resolve the bankruptcy crisis in corporate sector.
- According to IBC a financial creditor holds an important role in the corporate insolvency process.
- The Committee of Creditors (CoC) includes all financial creditors of a corporate debtor.
- The CoC will appoint and supervise the Insolvency Professional, and has the power to either approve or reject the resolution plan to revive the debtor, or can proceed to liquidate the debtor.
- The entire process is time-bound and must be completed within a period of 180 days (a one-time extension of 90 days is possible after the completion of 180 days).

What is the significance of RERA?

- Real Estate Regulation Act (RERA), was enacted to promote the real estate sector and to ensure sale of plot, apartment or building, or sale of real estate project in an efficient and transparent manner to protect the interest of home-buyers.
- RERA also provides for an adjudication mechanism for speedy dispute redressal, and establishes an appellate tribunal to hear appeals.
- The following are some of the protections offered by RERA to home-buyers:
 1. It mandates that the promoters should deposit 70 per cent of the money realised for the real estate project from the allottees in a scheduled bank to cover the cost of construction and the land cost, and shall be used only for that purpose;
 2. Every promoter should apply to the Real Estate Regulatory Authority ("Authority") for registration of real estate projects.
 3. Such registration can be revoked by the Authority if the promoter makes default in doing anything required by RERA (including time-bound completion of the project).
 4. Upon revocation of the registration, the Authority has the power to freeze the above mentioned bank account to ensure that the promoters do not siphon off money belonging to the allottees.
 5. Subsequently, upon revocation of the registration, the Authority may consult the government to take such action as it may deem fit including carrying out of the remaining development works by competent authority or by the association of allottees.
 6. If a promoter or a real estate agent fails to pay any interest or penalty or compensation imposed on him, it shall be recoverable from such persons as an arrears of land revenue.
- Thus RERA treats home-buyers as consumers, and provides a consumer-friendly dispute resolution mechanism through an exclusive Authority and appellate tribunal for the home-buyers.

What are the concerns with recent amendments?

- Recent amendment to IBC has given home-buyers the status of "financial creditors" in the insolvency process under the IBC.
- By doing so, the Union Cabinet has overlooked the recently enacted Real Estate (Regulation and Development) Act, 2016 (RERA), which is a special legislation to protect the interests of home-buyers.
- Actually financial creditors largely consist of banks and financial institutions, which have the requisite expertise to actively participate in, and to contribute to the resolution process, which involves the crucial task of coming up with a resolution plan to revive the company.
- Thus in reality home-buyers will have little interest in the company's revival or the corresponding macro-economic implications, as their end-goal will be to simply recover their hard-earned money.



- The recent representation of home-buyers will be a challenge to obtain consensus or a majority vote on various issues that need to be addressed at the CoC meetings.
- Therefore, the inclusion of home-buyers in the category of “financial creditors” will only cause unnecessary delay in the corporate liquidation process, which will significantly reduce the value of the assets under liquidation.

9.9 India Retaliates to U.S. Tariffs

What is the issue?

- India has issued a statement of intent to raise duties on a list of items that are currently being imported from the U.S. from August 2018.
- This is largely seen as retaliatory action against U.S. increasing import tariffs against certain products that will likely affect Indian exports.

How has the tariff war unfolded thus far?

- This was in retaliation to the US announcement for imposing tariffs on steel and aluminium items (25% and 10% respectively) from most countries.
- Significantly, US imports steel items worth approximately \$795 million and aluminium products worth \$424 million from India.
- In retaliation, India has recently announced a hike in duty for 29 items that are currently imported from the US from August 2018.
- India’s declaration to the World Trade Organization (WTO) has made it clearly its actions are merely to balance the losses arising from the U.S. tariffs.
- To this end, India reserves the right to adjust the specific products for which import concessions are to be suspended, and the rate of duty to be imposed.
- The items currently listed by India, which totalled to 29, included lentils, boric acid, fresh apples and shelled almonds.

What are the products that will take the biggest hit?

- **Almonds** - Of the listed products, the category that is expected to bring in the highest additional duties is almonds (both dried and in shell).
- Currently, the tariff on almond is Rs. 35 per kg and it accounted for \$580.63 million in bilateral trade for the year 2017.
- As the duty is raised to the proposed Rs. 42 per Kg, an additional earnings of \$116.13 million from almonds is likely.
- **Apples** - This is the 2nd largest category that is likely to be impacted and India imported fresh apples worth \$96.57 million from the US in 2017.
- The import duty has been increased from 50% to 75% and the likely additional revenue is estimated at \$24.14 million.
- **Diagnostic Reagents** - This is another category that is likely to take a massive impact as duty has been doubled from the current 10% to 20% overall.

10. INFRASTRUCTURE

10.1 Challenges for Universal Electrification Access

What is the issue?

- India has achieved its long pending goal of 100% electrification of its villages.
- But there is still a long way to go in providing electricity to all households in the country.

What is the actual scenario of rural electrification?

- Recently Union government announced it has achieved 100% rural electrification.



- The definition of electrification was limited to the provision of basic infrastructure such as transformers, of electricity in public places like schools and panchayats, and electrification of at least 10% households in the village.
- India continues to harbour energy poverty with 31 million rural households and about five million urban households still unconnected to the electricity grid.
- A significant portion of connected rural households are yet to get adequate quantity and quality of supply.

What are plans of the government on electrification?

- Union government under Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) and Integrated Power Development Scheme (IPDS) planning to provide universal electrification.
- By which it has an ambitious target of connecting all remaining households by the end of March 2019 and made budgetary allocations to cover the cost of electrification.
- As part of a Centre-State joint initiative on 24x7 'Power for All', State governments have already committed to ensuring round-the-clock supply to all households from April 2019.

What are the challenges for India's electrification target?

- Regional imbalances in electricity access is persisting in seven States namely Uttar Pradesh, Bihar, Odisha, Jharkhand, Assam, Rajasthan and Madhya Pradesh, which account for 90% of un-electrified households.
- Coincidentally, these States are ranked poorly in social development indices and house about two-thirds of the population living below the poverty line.
- There are a range of implementation shortcomings in universal electrification by state governments due to sluggish finance structure of the union government.
- Most of the Indian power distribution companies (discoms) in these states are bankrupt and are unable to purchase power and provide it to consumers.
- As a result, discoms don't have the capacity to sign power purchase agreements (PPAs).
- Add to this the issue of aggregate technical and commercial (AT&C) losses, heightened by the rampant problem of power theft.
- Given the context, it is uncertain whether the goal of electrifying all 'willing households' by March 2019 would translate into universal access to electricity.

10.2 Concerns in Achieving Renewable Energy Targets

Why in news?

Union Power Ministry announced it would overshoot the target of installing renewable energy sources by 2022.

What is the actual status of renewable energy installations?

- In 2015 Union government has announced 175 GW of renewable energy installations, recently the target has been increased to 225 GW.
- If India hits the 175 GW target, it stands to meet its greenhouse-gas emission goal under the Paris climate agreement.
- Of the current goal of 100 GW from solar energy by 2022, 40 GW is to come from rooftop installations, and 60 GW from large solar parks.
- But India has missed several interim milestones since it announced its 175 GW target.
- The obstacles have capped capacity addition to 69 GW till date, with India missing its 2016 and 2017 milestones.
- The misses happened despite renewable capacity being augmented at a blistering pace.

What are the challenges in achieving the ambitious target?

- **Lower Margins** - Wind and solar tariffs have hit such low levels that suppliers are working with wafer-thin margins.
- Rooftop solar clocked a compound annual growth rate of 117% between 2013 and 2017 India only hit 3% of its goal by the end of 2017.



- **Policy Lacunas** - In the solar sector alone, which the government is prioritising, policy uncertainties loom large.
- Homeowners aren't warming up to the idea of installing photovoltaic panels on their terraces because the economics does not work out for them.
- **Practical challenges** - Technological and financial challenges remain, both wind and solar generation could be erratic.

What measures needs to be taken?

- India's creaky electricity grid must be modernised to distribute such power efficiently.
- To hit its 2022 target of 175 GW, 106 GW will have to be added in four years, more than twice the capacity added in the last four.
- Manufacturers of photovoltaic (PV) cells have demanded a 70% safeguard duty on Chinese PV imports, and the Directorate General of Trade Remedies need take a call on this.
- Policies favouring homeowners to sell electricity back to the grid, needs to be incorporated with a nationwide "net-metering" policy.

10.3 Recent Developments in HFA Project

What is the issue?

To realise the target of creating Housing for all (HFA) by 2022, the union government needs to focus on promoting housing for the weaker sections in urban areas.

What is the Housing for all by 2022 project about?

- The Housing for All project was launched with an aim to provide affordable housing to urban poor by 2022.
- It is proposed to build around 2 crore houses for urban poor including Economically Weaker Sections and Low Income Groups, with central assistance in the range of Rs.1 lakh to Rs.2.30 lakh.
- This Mission has four components namely:
 1. In-situ Slum Redevelopment with private sector participation using land as resource.
 2. Affordable Housing through Credit Linked Subsidy.
 3. Affordable Housing in Partnership with private and public sector.
 4. Beneficiary led house construction/enhancement.

What are the recent developments in this project?

- Union government has decided to increase the carpet area under the project to cater the aspirations of the present generation for 3 bedroom apartments.
- People earning up to ₹ 18 lakh per annum can now avail up to ₹ 2.3 lakh as subsidy upfront which is a substantial benefit, especially for those in Tier 2 and Tier 3 towns.
- The RBI recently revised the limit for a housing loan to be classified as priority sector from ₹ 20 lakhs to ₹ 25 lakhs in cities other than metros.
- The objective behind these initiatives are two-fold - increase the housing coverage and in the process give a push to employment in the construction sector and create demand for cement and steel.
- These developments with the initiatives by Pradhan Mantri Awaas Yojana (Urban) has seen an upward revision in size of dwelling units in the Middle Income Group segment.

What are the concerns with the HFA project?

- There seem to be more attention on only certain like affordable housing through credit linked subsidy.
- The focus is on the segment which has more demand as well as the ability to invest rather than the economically weaker sections who are in greater need of support.
- There is also not much progress on slum redevelopment and in promoting large projects jointly with PSUs or private developers using government land, due to the lack of coordination between the Union, States and local bodies.

10.4 Chennai - Salem: Green Express Way Corridor

What is the issue?

- The proposed Greenfield highway between Chennai and Salem has run into opposition from various farmer organisations.
- This is the latest in a series of protests against major projects in Tamil Nadu that include Kudankulam power plant and the Tuticorin copper plant.

What is the project about?

- **Proposal** - The proposed eight lane road is estimated to cost is Rs 9,106 crore, with a tentative Rs 415 crore for rehabilitation of the displaced people.
- It will run 277 Km and is slated to pass through Kancheepuram, Tiruvannamalai, Krishnagiri and Dharmapuri districts.
- The region is mostly agrarian with a few industrial zones and most of the land proposed to be usurped is fertile agricultural fields.
- **Why** - There are three existing but twisty road routes between Chennai and Salem, two of which are already heavily trafficked, leading to abnormal delays.
- Hence, Tamil Nadu CM Mr. Palaniswami is said to have written to the centre, suggested a highway that directly links the two cities and reduce fuel costs.
- A subsequent feasibility report noted that the project is expected to generate development and employment in the towns along the route.
- Hence, considering the business potential and other benefits, the centre is said to have approved the proposal and called it "Green Express Way Corridor".
- Notably, government's feasibility report states that extensive public consultations were done and suggestions were also invited in the design stage.



Why are farmer organisations protesting?

- Contrary to the government's claim, many farmer organisations claim that they were not consulted in finalising the project.
- Farmer leaders have asserted that these regions do three crops a year and destroying these highly fertile lands for a highway cannot be accepted.
- Also, the state that government's promised maximum compensation in some regions is more than 10 times lower than the prevailing market rate.
- It is being felt that the government is taking unusual interest in rushing a project that is likely to affect the livelihood of over 1 lakh people.
- The protesters have planned multiple peaceful demonstrations against the project in stages.

How has the government responded?

- The revenue department is engaging retired officers to complete the survey and kick off the project due to staff shortage in its ranks.
- Police have been arresting protest leaders, including Salem-based activist Piyush Manush and Valarmathi.
- Sources say at least 10 people are in judicial custody for mobilising people, and protest participants across villages are also being arrested.

What is the stand of the opposition DMK?



- Opposition leader M K Stalin has said that his party will launch strong protests if the government tries to implement projects using police and force.
- DMK has also moved a petition before the vigilance and anti-corruption wing, alleging that the CM has made malicious gains through the project's tender.
- The allegation is that contracts running into crores of rupees were given to people closely related to the CM's family at inflated costs.

11. AGRICULTURE

11.1 Rise of “Farmer Producer Organisations”

What is the issue?

- Farmer producer companies are growing by the day.
- They can prove a vital interface between the farmers and markets and might help in reducing the dependence on MSP.

Why FPCs?

- Effective price realisation has eluded India's farmers for long, despite increasing production levels and massive outputs (275 million tonnes in 2017).
- This indicates that the fault might lie not in our production output, but our market ecosystem, which is highly regulated.
- The recent re-jig for doubling farmers' income has thrown light on the importance of sound market institutions for agriculture.
- **Institutionalisation** - In this context, Farmer Producer Companies (FPC), a relatively new institutional architecture is gaining traction.
- These are institutions that are both farmer-led and farmer owned and is fast becoming an effective interface between farmers and markets.
- Many FPCs have been created under the Companies Act of 2002, and this has led to the mobilisation of over 2 million farmers under the umbrella.
- Presently, over 3,000 FPCs have been registered and are supported by agencies like NABARD, Small Farmers Agribusiness Consortium (SFAC).
- Many other resource institutions also support the initiatives to organise farmers arrange themselves into this new co-operative order.

What is the modus operandi of FPCs?

- The foremost requirement to set up a FPC is having a compelling business model, a process that is organically driven by local leadership from farmers.
- FPCs are 'for-profit' enterprises fully owned by farmers, and they have successfully experimented with institutional and market led innovations.
- They've also demonstrated a positive impact on price realisation, cost saving, and local employment and are of great support to small farmers.
- Such institutions will help in facilitating farmers to own, greater parts of the agricultural value chain rather than just their farm produce.
- These organisations are hence a crossover between market and a social function, and the collective is ultimately fairly independent of the state.
- However, challenges in tackling forward markets and access to credit have been serious challenges for budding FPCs.
- Nonetheless, many FPCs have been trading measurable quantities for hedging, which are contributing to 15-20% higher prices owing to lesser uncertainty.

What are the key structural aspects of FPCs?

- Despite its effectiveness FPCs are not an alternative to APMC due to their limited reach and scale.



- Clearly, these institutions demand a specific kind of incubation support that facilitates collective businesses.
- The nature of state support for viable FPCs is being deliberated on multiple forum – access to capital, organisational governance, and technical training.
- While support from public corpuses is enough for starting an FPC, their long-term competitiveness depends on their ability to raise capital from markets.
- Provisions for limited shares (up to 24%) to private entities will give FPCs access to private capital without compromising on collective ownership.
- Further, these firms can integrate into the post-harvest segments of the value chain, and gain favourable economies of scale.
- While the start-up culture is presently an urban phenomenon, through FPCs start-ups will move rural and help the village level entrepreneurial landscape.

11.2 Dealing with Agrarian Surpluses

What is the issue?

- Whenever there is surplus productivity in the farming sector, the wholesale prices of perishables seems to crash hard.
- To safeguard our farmers, we need to devise innovative policies to deal with unexpected market gluts.

What are the trends in agro-prices in recent years?

- When the National Democratic Alliance (NDA) government took charge in 2014, it had to deal with almost double-digit inflation (primarily food inflation).
- Hence, the government naturally give priority to allaying the concerns of the consumers and made efforts to contain food inflation.
- To this end, the government resisted announcing any sharp increases in Minimum Support Prices (MSP) for various agricultural commodities.
- It also tweaked the trade policy to ensure that there was enough agricultural produce to contain any sharp increase in retail prices.
- Consequently, excessive supply in agro-produce has become a recurring and common market phenomenon in recent times.
- This has caused regular price crashes, leading growing farmer unrest across the country, which is now making the government take note of the plight of farmers.
- Notably, there have been multiple incidences of farmers throwing away their produce to express dissent and vent their anger at the unfair prices being offered.

What are the reasons for higher productivity?

- Multiple reasons has caused production across a whole range of agricultural commodities in India to go up year on year.
- There have been productivity gains due to improvements in the quality of seeds available because of better plant breeding and genetics.
- Added to this is the sustained improvements in scientific farming practices, such as high-density cultivation and use of drip irrigation.
- Investments in associated infrastructure, such as better road connectivity and improved access to electricity, have also helped in raising overall productivity.
- Also, with improvements in information technology and more inter-connectedness, demand signals are penetrating more rapidly than ever.

What has been the government response?

- **Actions** - As the growing anger could have electoral repercussions, the governments at various levels has promised higher MSPs and loan waivers.



- But these measures are mere painkillers, and a sustained solution is needed to address the current crisis comprehensively.
- Notably, the promise of higher MSP would only incentivize the greater production of certain commodities than sustainably securing farmer incomes.
- **The problems** - Government seems obsessed with supply-side management measures such as imposing stock-holding limits and allowing easier imports.
- Also, government policy has largely been biased against farmers to favour consumer needs by ensuring that prices are sustained at low levels.
- For instance, government tends to block exports when there are better international prices, in order to ensure that domestic prices doesn't spike.
- Contrarily, when there is a spike in domestic prices, the government opens up for cheap imports to ensure safeguard the consumers from price rise.
- Hence, it can be said that farmers are indirectly subsidizing consumers for long, which needs to correction in order to ensure economic justice to our farmers.

What is the way ahead?

- Improving market access for the farmers (rather than artificial pricing manipulations) would help in reducing the frequency of market gluts.
- By facilitating long-term purchase agreements between farmers and agro-companies could improve storage infrastructure.
- Such storage infra could help in creating buffers that can absorb market gluts and also ease food inflation and hence benefit both famers and consumers.
- Monsoonal vagaries trouble Indian farmers regularly, but present agro-policies are proving to be even more troublesome, thereby needing immediate correction.

11.3 Zero Budget Natural Farming

What is the issue?

- Andhra Pradesh CM announced that the State would fully embrace Zero Budget Natural Farming (ZBNF).
- India could consider replicating the model for the country.

What is ZBNF?

- Zero Budget Natural farming (ZBNF) is said to be “do nothing farming”.
- It involves the application of nature’s principles in farming.
- It practises no-till, no chemical use in farming.
- Alongside, dispersal of clay seed balls to propagate plants is done.
- The key aspects integral to it and which require locally available materials are:
 - i. seeds treated with cow dung and urine
 - ii. soil rejuvenated with cow dung, cow urine and other local materials to increase microbes
 - iii. cover crops, straw and other organic matter to retain soil moisture and build humus
 - iv. soil aeration for favourable soil conditions
- These methods are combined with natural insect management methods when required.
- *The ZBNF is a technology of the future with a traditional idiom.*

What are the benefits?

- In ZBNF, **yields** of various cash and food crops have been found to be significantly higher.
- E.g. yields from ZBNF plots were found on average to be 11% higher for cotton than in non-ZBNF plots.
- The yield for Guli ragi (ZBNF) was 40% higher than non-ZBNF.

- **Input costs** are near zero as no fertilizers and pesticides are used.
- **Profits** in most areas under ZBNF were from higher yield and lower inputs.
- Model ZBNF farms were able to **withstand drought and flooding**.
- Notably these are the serious emerging concerns with regard to **climate change**.
- Planting multiple crops and border crops on same field provides **varied income and nutrient sources**.
- Overall, there is
 - i. reduced use of water and electricity
 - ii. improved health of farmers
 - iii. flourishing of local ecosystems and biodiversity
 - iv. no toxic chemical residues in the environment
 - v. improvements in soil, biodiversity, livelihoods, water
 - vi. climate resilience
 - vii. women's empowerment and nutrition

How is ZBNF better than organic farming?

- Organic agriculture often involves addition of materials required in bulk and have to be purchased.
- These are large amounts of manure, vermicompost and other materials.
- These turn out to be expensive for most small farm holders.

What is the Andhra Pradesh model?

- **Initiatives** - Successful pilot programmes were initiated in 2015 and partnerships for gaining inputs were taken up.
- With this, Andhra Pradesh has become the first State to implement a ZBNF policy.
- **Coverage** - This year, 5 lakh farmers will be covered, with at least one panchayat in each of the mandals shifting to this new method.
- By 2021-22, the programme is to be implemented in every panchayat, with full coverage by 2024.
- **Strategies** - Tenant farmers and day labourers are being trained.
- This ensures that through the ZBNF, livelihoods for the rural poor are being enhanced.
- Farmer-to-farmer connections are vital to the success of the programme.
- Establishment of farmer's collectives such as Farmer Producer Organisations are encouraged.
- **Funding** - The Government of India provides funding through the Rashtriya Krishi Vikas Yojana and Paramparagat Krishi Vikas Yojana.
- Additional resources have been made available through various philanthropic organisations.
- **Participation** - Andhra Pradesh has supported and learned from its many effective civil society organisations.
- This include Watershed Support Services and Activities Network, Centre for Sustainable Agriculture, Deccan Development Society.
- The scaling up relies primarily on farmers and local groups; in all, very much a bottom-up process.
- Open-minded enlightened political leaders and administrators have been fundamental in this process.
- **Geography** - Andhra Pradesh has a combination of delta regions, arid and hilly tribal areas.
- Thus the districts in Andhra Pradesh are similar to those in other parts of the country.
- It could therefore serve as a workable model for replication.
- The drought-prone Rayalaseema region (Andhra Pradesh) is reportedly seeing promising changes in farms with the ZBNF.

11.4 Taking Forward Contract Farming

What is the issue?

- The government recently came out with a Model Contract Farming Act, 2018.
- Better Centre-State co-operation on land lease will ensure that both farmers and sponsors gain.

How is the growth scenario?

- Agriculture growth is under stress at 3.4% in 2017-18 compared with 6.3% in 2016-17.
- This is largely attributed to
 - i. declining soil fertility
 - ii. fragmentation of landholdings
 - iii. increasing restrictions to commercialisation and modernisation of farming and farm-related activities

What is contract farming?

- It refers to a system in which bulk purchasers enter into contracts with farmers.
- It includes agro-processing, exporting and trading units.
- They purchase a specified quantity of any agricultural commodity at a pre-agreed price.
- The contracting firm/company is also known as the sponsor.
- As, it provides all production support to the contacted farmers.
- This includes the extension services with full protection of land rights.

What are the benefits?

- **Income** - The idea is to increase farmers' income by creating an alternative market mechanism.
- It would provide linkages between national and international markets.
- Prior to this, several States have been hesitant to allow contract farming.
- With the Act being notified, the focus has shifted to the operational aspects.
- **Middlemen** - Agricultural markets invariably remain in the clutches of the middlemen.
- The Act allows farmers and farmer producer organisations (FPOs) to directly link with companies.
- It thus enhances market linkage and removes dependence on middlemen.
- **Price** - 86% of total landholdings in the country belong to the small and marginal category.
- The Act will have an indirect effect on farmers forming FPOs.
- It helps pooling their land for a better say in determining the prices of their produce.
- **Cost** - Farmers no longer have to transport their produce to the mandis.
- As, sponsors usually collect the produce from the farm gate.
- It thus reduces farmers' cost and thereby translates into increased incomes.
- **Land** - Fear of losing land has always inhibited farmers from embracing new policy.
- The Act does well to insulate land ownership rights of the farmers.
- It prevents them from any potential infringement from the sponsors or the buyers.
- **Market** - Contract farming creates new markets for farmers' produce.
- It facilitates better access to technology, crop diversification, and extension services.
- It can thus positively impact the production process.
- **Financing** - Lack of formal financing mechanism and lower penetration of crop insurance are prime causes of farmer distress.

- Contract farming facilitates financing and crop insurance as well.

What are the shortcomings?

- **Board** - The Act mandates the formulation of a contract farming board.
- This is to guide several aspects of the contract, including pricing of produce.
- The intent is to provide a cushion against possible exploitation of the farmers.
- However, if not exercised judiciously, the board may set high price, deterring sponsors.
- **Quality** - The sponsor is mandated to buy the entire contracted amount of produce.
- This is even if the quality parameters are not met, though at a lower price.
- This affects the sponsors, as, they enter into agreement to procure a specific grade of produce.
- **Insurance** - The spirit of providing insurance support to the farmer is good.
- But the sponsor is burdened with this additional cost.
- The government can instead consider covering this cost.

11.5 Assessing Agri-Pricing Policies

What is the issue?

- Excess supply, depressed market prices and mounting farmer losses are more a consequence of shortfalls in agri-pricing policies.
- It calls for providing income support to at least the most vulnerable farmers.

What is the existing scenario?

- Good rains, excessive sowing and bumper harvest last year produced excess supply in the market.
- It resulted in a decrease in the prices of many crops and thus in farm incomes too.
- Market prices for major kharif crops fell below the Minimum Support Prices (MSP).
- The current farm crisis is largely due to the shortcomings in the pricing policies.

What is the policy shortfall?

- Agri-prices, and therefore farm incomes, are not free-market driven.
- They are kept artificially low, through use of pricing policy instruments.
- This is done so that inflation does not erode the rest of the population's purchasing power.
- The economic tools for protecting farm incomes were not employed to the best advantage.
- These include -
 - i. the price support scheme
 - ii. price stabilisation fund
 - iii. market intervention scheme
- Appropriate adjustments to the export and import rules could have arrested the price fall.
- It would have diverted the excess supplies to overseas markets.
- But imports were allowed as usual, which worsened the price situation.

What is the policy on MSP?

- The Budget promised that Minimum Support Prices (MSPs) would be at least 150% of production costs.
- Even if market prices fall below MSP, government will procure the produce on MSP.
- If it does not procure, it will provide a mechanism to ensure payments reach farmers.
- That would be equal to the gap between the MSP and the market price.



- Assuring 50% profit margin over the cost of production is to make farming remunerative.

What are the concerns with MSP?

- Farmer groups and government differ on the **formula** for calculating production costs for plugging into the MSP formula.
- But besides this, simply announcing higher MSPs will not raise farmer incomes.
- As, the **system** is not geared for scaling up **procurement** in the first place.
- MSPs are announced for more than 20 crops.
- But, noteworthy procurement is conducted just for three - paddy, wheat and sugarcane.
- For several crops, last year, the **quantities procured** were small portions of the total produce.
- Further, procurement frequently takes places at **prices** below the MSP, according to reports.
- Also, **small and vulnerable farmers** usually do not get paid MSPs at all.
- This is because they sell their produce to aggregators, not directly in mandis.

What is the demand-supply mismatch?

- MSP of Paddy for the 2018-19 kharif season will have to be raised 11-14%, cotton 19-28%, and jowar 42-44%.
- These are the projections if the MSP pricing formula of 1.5 times the cost is employed.
- A rational response of farmers would be to sow more jowar in the next season.
- But there is no reason that the demand for jowar would also rise.
- A demand-supply mismatch would be inevitable in this case.
- It would send the market prices for jowar way below the announced MSP.
- It would in turn call for significantly expanded jowar procurement at MSP.
- Thus, clearly, pricing policies distort market prices of crops.
- It sends the wrong signal to farmers on what to produce and how much.
- The policy system fails to correct such situations, which then goes out of control.

What should be done?

- If the problem is volatile incomes, the solution must target incomes, and not prices.
- Income support payments, paid on a per hectare basis through direct transfers should be considered.
- It would offer an administratively neater, economically far less distortionary and politically more attractive solution.
- E.g. Telangana has announced such payments for farmers at the rate of ₹ 10,000/ha (₹ 4,000/acre) per season.
- The cost projections for scaling up this model at national level are roughly same as the estimated bill for price differential payments.
- This is excluding the procurement of sugarcane, wheat and paddy, and non-MSP crops.
- Fiscal space must be found for providing income support this year to the most vulnerable farmers at least.
- Over the longer term, deep reforms in pricing policy would be the alternative.

12. SCIENCE & TECHNOLOGY

12.1 Science Based Targets - Transition to Low Carbon Economy

What is the issue?

Science Based Targets, an environmental initiative, could go a long way in driving companies to contribute to tackling climate change.

What is 'Science Based Targets'?

- Science Based Targets is a joint initiative of CDP, the UN Global Compact (UNGC), the World Resources Institute (WRI) and WWF.
- It is an initiative to drive corporate climate actions globally.
- It sets emissions reduction targets to ensure that the transformational action is aligned with current climate science.
- It is 'science-based' as it is in line with the scale required to keep global temperature increase below 2°C compared to pre-industrial temperatures.
- 'Science-based target setting' is a way of boosting companies' competitive advantage in transition to a low-carbon economy.

What is the rationale?

- In 2015 Climate Conference, 195 countries signed the Paris Agreement.
- The goal is to limit global temperature rise to below two degrees Celsius.
- This signalled an acceleration in the transition to a low carbon economy.
- However, the private sector needs to take the lead towards this transition.
- Science Based Targets is an effort at this front.

What is the significance?

- **India** - India has committed to generate at least 40% of its electricity from non-fossil fuel sources.
- A decrease in carbon emission intensity of GDP by 33 to 35% by 2030 has also been committed.
- Indian companies and multinationals operating in India have a major role in this.
- Sixteen Indian companies have committed to set science-based targets.
- They have secured themselves competitive advantage in the transition.
- Some of the world's biggest companies with significant supply chains in India have also committed.
- These include Kering, Walmart and others.
- **Global** - Unique to the initiative is the criterion that companies need to commit to setting supply chain or 'scope 3' targets.
- If more than 40% of a company's emissions occur in its supply chain, then it has to commit to reducing those emissions as well as its direct emissions.
- Notably all companies operate within a value chain.
- This has the potential to rapidly escalate the impact of science-based target setting on global emissions.

12.2 India in Exo-planetary Research

What is the issue?

- In a feat that is critical for India and science, Ahmadabad based lab discovered a planet orbiting a star 600 light years away.
- This is a 1st for Indian scientists and is a vindication of India's space potency.

What the metrics of Exo-planet studies?

- **Why** - Exo-planets are those celestial bodies that orbit stars outside our solar system in clearly defined elliptical paths.
- We need to understand how planets form around stars, to understand our solar system better, for which study of exo-planets are key.
- Habitability of exo-planets is a keenly studied area, which is mainly based on its distance from its star (the planet should be neither too hot nor too cold).
- Indian scientists have been trying to track exo-planets since 2012, but it was only recently that PRL, Ahmadabad became the 1st to achieve the feat.



- **What** - The 1st thing is to understand about exo-planets are their characteristics and fundamental parameters - mass, radius, and atmosphere.
- With mass and radius, it is easy to get the density, which will help in making a rough estimate of the planet's composition.
- **The challenge** - Detecting an exo-planet is very difficult as it is a dull object that will invariably be roaming around the bright spot of its star.
- Direct imaging of exo-planets is almost impossible, although new techniques are being evolved by NASA and others.
- There are only 5-6 spectrographs around the world that can measure the mass of exo-planets at high precision (radial velocity less than 2 m/s).
- India counts itself as one of the few countries that has the instruments to discover and analyse such difficult worlds.

Then, how are exo-planets studied?

- **How** - The presence of a planet will make its star wobble, which can be measured using a precise spectrograph.
- This spectrographic reading will help in measuring the mass of the planet.
- When the planet passes between its star and Earth, the intensity of light from that star (which reaches the earth) gets minutely dim.
- This dip in star's flux is measured, and this is subsequently employed to estimate the radius of the planet.

What are the observed results of the newly detected exo-planet?

- A suspected planet (now been coded as "K2-236b"), was under the observation of the Ahmadabad based lab over 1½ years.
- In Jan 2018, scientists conclusively stated that their object of observation was a planet, which was then confirmed by "Mount Abu Space Observatory".
- The planet is said to be composed of 70% iron, ice or silicates and 30% is gas, with about 27 Earth-masses and 6 Earth-radii.
- In terms of mass and radius, the planet is akin to Neptune, and it is just one-seventh of the distance away from its star as compared to 'Sun-Earth distance'.
- One year on that planet is about 19.5 Earth-days and surface temperatures average to about 600°C, which thereby makes it uninhabitable.

How does the future of exo-planetary studies in India look?

- Indian space scientists have set out with the ultimate aim of detecting planets of close-to-Earth mass (2 to 10 Earth masses).
- A new 2.5-m telescope at "Mount Abu Observatory" with a bigger spectrograph is likely to be installed by 2020, and it will be called "PARAS-2".
- PARAS-2 is slated to have the capacity to even measure smaller exo-planets that are just about 2 or 4 times Earth's mass.
- It is also hoped that ISRO will launch some space missions relating to exo-planet studies.

13. ENVIRONMENT

13.1 Maharashtra Bans Plastics

What is the issue?

- Maharashtra may be gearing up for a stringent ban on plastic.
- But experience from across the country suggests that claims on reigning in plastic are stronger on paper than on the ground.

What does the ban encompass?



- **Ban** - Environment experts have been blaming plastics for choking of nullahs in Mumbai and the flooding in parts of the city during monsoons.
- Hence, the government has notification a ban on manufacture, use, transport, distribution, wholesale and retail sale, storage and import of plastic bags.
- The ban also covers disposable plastic products such as single-use disposable dishes, cups, plates, glasses, fork, bowl, container, spoon, straw, and wraps.
- Notably, the ban is applicable to manufacturers and consumers as well as the chain in between, which includes shops, hawkers, vendors and offices.
- **Exemptions** - While the ban is not applicable to PET bottles, a predefined and explicitly printed buyback price (on the bottle) has been mandated.
- The price is slated to vary between Rs. 1 to Rs. 2, depending on the size.
- Compostable plastic bags and plastic used for packaging of medicines, for plant nurseries, and for handling of solid waste, have been exempted.
- Plastic used for packaging of milk, those manufactured for export in SEZs and plastic wrap for material at the manufacturing stage are also not ban.

What are the challenges in implementing the ban?

- **The Affected** - Maharashtra has 2,500 units making plastic bags, employing 56,000 people and they owe nearly Rs. 11,000 crore to banks.
- 'Plastic bag manufacturers' and 'retail traders' approached the Bombay High Court against the decision, but their appeal was turned down.
- 'Clothing Manufacturers' have spoken against the ban, stating that apparel trade employs 30 lakh people in India and depends on plastic packaging.
- **Alternatives Packaging** - The State is not directly providing alternatives to banned items and has relied on people for solutions.
- In this context, Mumbai Corporation has invited manufacturers of alternative products to showcase their wares at a three-day exhibition.

How is the ban going to be implemented?

- **Authority** - Collectors, forest officers, police and Pollution Control Board officials have been empowered to implement the ban and take legal action.
- Local bodies are training a cadre of inspectors to keep a constant vigil and a operating procedure for levying penalty has also been given out.
- Awareness for waste segregation, door-to-door campaign about the policy and establishment of multiple waste collection centres has already been done.
- **Fine** - Penalty for violating the ban starts from Rs. 5,000 (first offence), Rs. 10,000 (second time) and Rs. 25,000 (third time) with three months in jail.
- In case one fails to pay the minimum penalty, the civic body can file a prosecution complaint before the court, which will decide the fine.

What is the countrywide status on plastic management?

- India generates an estimated 5 million metric tonnes of plastic packaging waste each year, of which less than half is recycled.
- Centre's "Plastic Waste Management (PWM) Rules - 2016", mandate all States to annually apprise the Central Pollution Control Board (CPCB) on the steps taken to reign in plastic use.
- The overall appraisal also involves a report on the strength and performance of the recycler and waste-processing network of states.
- Sadly, in CPCB's latest report in 2016, it was noted that only 24 States/UT have complied with the centre's directions for appraisal.



How do states fare in regulating plastics?

- **Poor implementation** - Most States, while claiming total ban, implement ban only in specific towns or cities or only on particular type of plastics.
- In fact, they don't even set-up proper monitoring system for use of carry bags as per the specified guidelines of the union government.
- More significantly, even in areas where total ban on plastics has been imposed, plastic bags are stocked, sold and used indiscriminately.
- **Violation** - Delhi reportedly generates the largest quantity of plastic waste in India, but it hasn't even provided its plastic management plan yet.
- While law requires that all plastic recyclers register themselves, there were around 312 unregistered plastic recycling units across the country.
- **Single Use Plastic** - Around 43% of manufactured plastics are used for packaging, and most of this is "single-use" plastic.
- So far, not one of the 24 States that report their plastic waste management performance has plans in place to tackle single use plastics.

Will Maharashtra's ban work?

- Independent experts say that while Maharashtra's initiative is laudable, it still hinges on extremely efficient enforcement.
- Efforts for proper implementation are being undertaken with seriousness, but manpower for regulating the ban is bound to remain a challenge.
- Identifying suitable plastic packaging alternatives is key to sustain the ban in the long run as mere policing will not work.
- Kerala and Sikkim have the most creditable plastic waste management policies and Maharashtra would do well by adopting their best practices.

13.2 Concern's with Regulating Plastic Ban

What is the issue?

- In recent times use of plastic become the major threat to the environment.
- India lacks proper framework mechanisms to discourage plastic use.

What are the concerns with plastic usage in India?

- India is the major producer of plastic waste that ends up in the oceans.
- The Centre's somewhat liberal estimate shows over 60% of about 25,000 tonnes of plastic waste generated daily is collected.
- That essentially means a staggering 10,000 tonnes of trash is being released into the environment, a lot of it is going into the sea.



- Also, not every piece of plastic collected by the system is scientifically processed.
- Ganga-Brahmaputra-Meghna river system is on the UN map of 10 rivers worldwide that collectively carry the bulk of the plastic waste into the oceans.
- The effects are evident that they threaten marine life and the well-being of people, as micro plastics are now found even in drinking water.

What are the pitfalls with measures taken?

- In their response to the crisis, communities and environmentally minded individuals are ahead of governments and municipal authorities.
- They segregate waste, compost at home, conduct “plastic free” social events and help recover materials that would otherwise just be dumped in the suburbs and wetlands.
- But, valuable as they are, voluntary efforts cannot achieve what systemic reform can.
- India’s Solid Waste Management Rules and the Plastic Waste Management Rules of 2016, which built on previous regulations, mostly remain on paper.
- State governments have simply not given them the necessary momentum, and the producers of plastic articles that are invariably used just for a few minutes have shown little concern about their negative environmental impact.
- Local bodies mandated under rules to ensure segregation, collection and transfer of waste to registered recyclers have spectacularly failed to fulfil their responsibilities.

What measures need to be taken?

- It is the Centre’s responsibility to ensure that the Environment (Protection) Act, the overarching law that enables anti-pollution rules to be issued, is implemented in letter and spirit.
- Ideally, regulation should help stop the manufacture of single-use plastic articles such as carry bags and cutlery, and encourage the use of biodegradable materials.
- The provisions of the Plastic Waste Management Rules require manufacturers of compostable bags to get a certificate from the Central Pollution Control Board.

13.3 Impacts of Anthropocene Era

What is the issue?

The Globe has entered into an Anthropocene era, due to this India which has variety of bio-diversity would be seriously affected.

What is the global status of geological change?

- In recent decades, populations of more than 40% of large mammals have declined and insect biomass has decreased by more than 75%.
- This unique bio-cultural tapestry has been resilient to change for centuries, but with the unleashing of unprecedented economic and environmental forces, it is now subject to increasing wear and tear.
- Forests are degrading and diminishing in a higher rate, but we overlook that the whole tapestry covering our body is slowly disintegrating.
- By this the globe has entered into the Anthropocene era, a new period in earth’s history, when humans have begun to impact our environment at the global scale.
- India has a myriad of unusual and exquisite species occur in the countless ecosystems spread across vast lands, rivers and oceans, for bio-logical losses, India ranks higher across the globe.

What are the concerns with India’s approaches?

- Current efforts to map India’s biodiversity are largely restricted to forestlands, while plans for species monitoring are even more inadequate.
- In many of India’s academic institutions ‘Life Sciences’ are still restricted largely to the study of cells and molecules, life at microscopic and sub-microscopic levels.

- Government and private philanthropy are lagging to bring multiple stakeholders together to develop a programme to document to save the bio-diversity for the future.

What measures needs to be taken?

- India must do more to safeguard biodiversity and the ecosystem services that support all human endeavours.
- India's forest policy calls for forests to cover almost a third of the country, and if we include other natural systems such as grasslands and wetlands, the area to be protected could amount to almost 40%.
- Some areas could be fully protected while others might be managed by stakeholders for sustainable use and enrichment of biodiversity.
- Thus India need a massive new effort to catalogue, map, and monitor life, using fundamentally different approaches.

13.4 Cross-border Environmentalism

What is the issue?

- Emerging environmental concerns make cross-border environmentalism crucial for South Asia.
- It is high time that India recognises this and takes the lead.

What is the emerging threat?

- Climate change is introducing massive disturbances to South Asia.
- This is most notably from the rise of sea levels.
- The entire Indian Ocean coastline will be affected.
- But the hardest hit will be the densely populated deltas.
- They include places where the Indus, Irrawaddy and Ganga-Brahmaputra meet the sea.
- The distress is paramount in the northern half of the Indian subcontinent.
- It covers areas from the Brahmaputra basin to the Indus-Ganga plain.

What are the environmental concerns?

- **Water** - The subcontinent is running out of water resource.
- This is due to the demands of industrialisation and urbanisation.
- It is also due to continuation of colonial model of irrigation based on flooding the fields.
- **Rivers** - The economic and demographic forces are arrayed against the rivers and their right-of-way.
- E.g. Ganga (Uttarakhand), Teesta (Sikkim) have been converted into dry boulder tracts by 'cascades' of run-of-river hydroelectric schemes.
- The tributaries of the Indus were 'done in' decades ago through water diversion.
- **Natural drainage** - Everywhere, natural drainage is destroyed.
- Highways and railway tracks are elevated above the flood line, and bunds encircling towns and cities.
- Reduced flows and urban/industrial effluents have converted great rivers into sewers.
- Rivers are made to carry hundreds of tonnes of plastics daily into the Bay of Bengal and the Arabian Sea.
- **Climate refugees** - The climate change discourse has not evolved enough to address this.
- Tens of millions of 'climate refugees' could en masse move inland.
- They may be forced to cross national boundaries in the search for survival.
- E.g. the Farakka Barrage affected the livelihoods in downstream Bangladesh, causing the flood of 'undocumented aliens' in India.
- **Glaciers** - The retreat of the Himalayan glaciers is jeopardising the perennial nature of our rivers.



- The '**atmospheric brown cloud**' is said to be the reason for excessive melting of snows in the central Himalaya.
- The icefalls of the Himalaya could soon transform into waterfalls.

What are the policy shortfalls?

- **Participation** - The subcontinental environmental realities demand civic participation.
- But despite being a vast democracy, the Indian state neglects this factor.
- Efforts at preserving the forests and landscapes are mostly taken up by the indigenous communities.
- The urban middle class is not visible in environmentalism, other than in 'beautification projects'.
- **Governance** - The Environment Ministry is invariably the least empowered in the major countries of South Asia.
- It falls short of coordinating the ecological response.

Why is India's role crucial?

- Wildlife, disease vectors, aerosols and river flows do not respect national boundaries.
- The environmental trends must be discussed at the regional inter-country level.
- But South Asian societies are apart, when they should actually be joining hands on common ground.
- India is the largest nation-state of the region, and the biggest polluter.
- Also, its population is the most vulnerable.
- Given these, India should take the lead role in cross border environmentalism.

13.5 Inter-Species Social Behaviour

Why in news?

Recent scientific study on birds has revealed new insights on inter-species social behaviour among animals.

What is the recent research on inter-species?

- 'Birds of a feather flock together' is an old adage to explain some well-observed aspects of social behaviour among humans and animals.
- Social behaviour among animals have been researched for a long time, but was restricted to focus on intra-species social interactions.
- This had led scientists to have a fairly sophisticated understanding of group behaviours.
- However, relatively less is known about the socialising of certain animals including birds and mammals with individuals of other species.
- A recent Research by Centre for Ecological Sciences at the Indian Institute of Science in Bengaluru offers new insights on inter-species social behaviour among animals.

What are the significant revelations of the study?

- Scientists have tried to get clarity on the difference between mixed-species socialisations and same-species interactions and ascertain the motivation for mixed-species socialising.
- It was generally thought that in same-species social interactions, all individuals get similar benefits and in mixed-species interactions, different groups get different benefits.
- But the study revealed that most cases of mixed species socialisation was similar to that of single species groups and the benefits received from both the groups were also similar.
- Therefore, when the motivation for joining mixed species group rather than same species group were studied, it was found that gaining concrete benefit like having same predator.

- And quality of such benefit like how soon can an individual spot a predator, were factors for choosing mixed species group.
- Some birds took into account the cost of competition while deciding whether to join a flock of different species, such as different food habits but share same predator.
- It was also found that birds considered their flight behaviour and skills while joining another group, so as to coordinate their activities together as a flock.
- A combination of these and probably more were the motivations behind birds' decision to restrict themselves to flocks of their own species or join other groups.
- These revelations would be helpful in protecting the species of the interacting group of any cascading effects if the other group of species become extinct or change behaviour.

13.6 Inter-Linking of Rivers

What is the issue?

- The Special Committee for Inter-Linking of Rivers has recently submitted its progress report.
- In this backdrop it is essential to understand what interlinking seeks to achieve.

What was the committee for?

- The SC directed the Centre to set up a special committee following writ petition on 'Networking of Rivers' in 2012.
- The court directed the committee to submit a bi-annual report to the Cabinet.
- It also directed the Cabinet to take appropriate decisions.

What is the mandate?

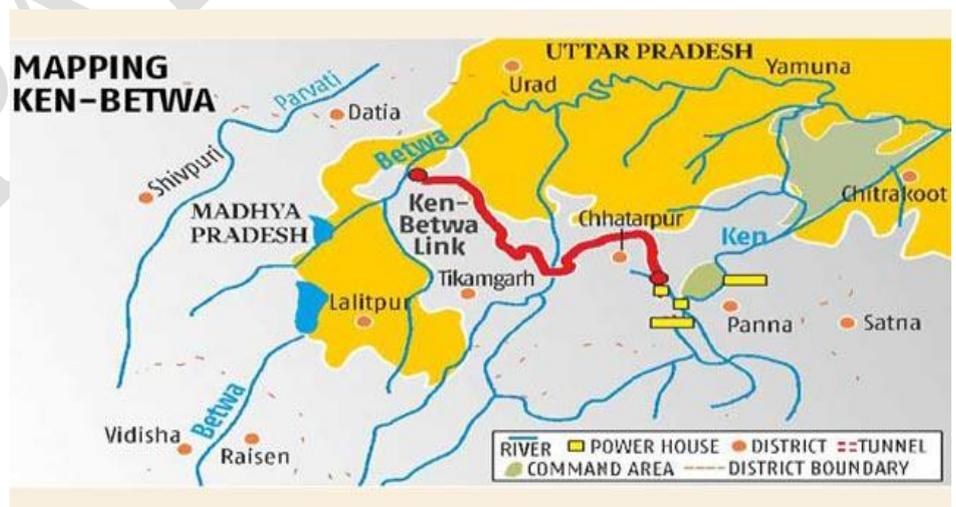
- The status reports are meant to be in accordance with the National Perspective Plan.
- This plan was formulated in 1980 by the Ministry of Irrigation (now Water Resources).
- The plan was in relation to inter-basin transfers.
- It comprises of two components: peninsular rivers development and Himalayan rivers development.
- India also has a National Water Development Agency (NWDA) (1982).
- It conducts surveys and sees how feasible the proposals for interlinking river projects are.

What is Inter-Linking of Rivers programme?

- A national water grid aims to connect various surplus rivers with deficient rivers.
- It aims to transfer excess water from water-rich to water-deficit regions.
- This is to help improve irrigation, increase water for drinking and industrial use.
- Mitigating drought and floods to an extent are also part of the objectives.

What are the contents of the recent report?

- The status report of three priority links was shared with the Cabinet. These are:
 - i. Ken-Betwa
 - ii. Damanganga-Pinjal
 - iii. Par-Tapi-Narmada
- **Ken-Betwa** - The project aims to link the rivers Ken (in the Bundelkhand region) and Betwa and thereby divert the surplus waters of Ken to Betwa.
- Both the rivers are flowing through Uttar Pradesh and Madhya Pradesh.
- It goes for meeting the water requirements in the water-deficit Betwa basin.





- Dams will be built across the Ken for storing and transferring water through the link canal.
- **Damanganga-Pinjal** - The project aims to divert excess water from rivers in western India.
- It is to meet the domestic and industrial water requirements of Greater Mumbai.
- It proposes to move available water at the proposed Bhugad reservoir across the Damanganga and also at the proposed Khargihill reservoir across the Vagh (a tributary of the Damanganga).
- **Par-Tapi-Narmada** - This proposes to transfer water from Western Ghats to water-deficit regions of Saurashtra and Kutch.
- This would be done via seven reservoirs proposed in northern Maharashtra and southern Gujarat.
- It is an attempt to save water at the Sardar Sarovar project.
- The recent committee report also talks on the status of other Himalayan and peninsular links.

What are the concerns?

- There are significant environmental concerns associated with inter-basin transfer.
- The ecology of every river is unique.
- Letting the waters of two rivers mix may affect biodiversity.
- Besides, it involves construction of a massive network of canals and dams, which would lead to large-scale displacement of people.
- It may make changes to agricultural patterns, and affect livelihoods.
- In addition, rainfall patterns are changing due to climate change.
- So the basins now supposed to be surplus, might cease to be so in few years.
- There are financial concerns as well, related to the projects.
- In 2001, the total cost for linking the Himalayan and peninsular rivers was estimated at Rs 5,60,000 crore.
- The cost is now likely to be substantially higher.
- Also, the cost-benefit ratio might no longer be favourable.

13.7 Moving to Methanol

Why in news?

NITI Aayog is helping the Ministry for Petroleum and Natural Gas draft a Cabinet note on methanol.

What is the initiative?

- When a Cabinet note is circulated it covers all aspects and issues that may pose a challenge for Methanol Policy implementation.
- The policy will be a combined effort of the Ministry of Petroleum and Natural Gas, Fertiliser and Coal among others.
- The NITI Aayog will be a facilitator.
- It is also looking at possible international collaborations.
- This is to get help during the interim period till coal to methanol production in India reaches a level that it can meet the demand.
- There is a need to import certain quantity of methanol till then.

How is methanol a better option for India?

- **Imports** - Methanol is a cost-effective, non-polluting and versatile fuel.
- It can fully or partially replace petrol, diesel or liquefied petroleum gas (LPG).
- With methanol, India aims at trimming the crude oil import bill by 10% by 2022.
- It can thus reduce India's dependence on energy imports.

- **Sources** - Ethanol is made largely from plant-based sources, such as sugarcane and vegetable oil.
- A land-constrained country like India can ill-afford this.
- But unlike this, methanol can be derived from a variety of renewable, non-renewable and abundantly available feedstock.
- These include agricultural biomass, urban solid waste, coal, and natural gas.
- It, significantly, includes even carbon dioxide (CO₂) present in the air.
- **Potential** - India's potential to produce methanol is huge.
- As, India has over -
 - i. 125 billion tonnes of proven coal reserves
 - ii. 500 million tonnes of biomass (generated annually)
 - iii. substantial quantities of stranded natural gas
- **Cost** - The locally generated and relatively cheaper methanol can significantly contribute to saving cost.
- The Indian Railways is considering converting its entire fleet of 6,000 diesel engines to methanol-operated locomotives.
- This could cut down the railways' energy bill by half.
- **Besides**, if about 20% of crude oil imports are substituted by methanol, vehicular pollution can be slashed by 40%.
- In all, this is a positive move serving both the energy- and environment-related objectives.

What are the concerns?

- Methanol-powered vehicles are almost totally non-polluting.
- However, a large amount of CO₂, a potent polluter, is emitted during the process of making methanol from coal.
- This will need to be either captured and stored or used to co-generate power in methanol plants.
- Otherwise, it has to be recycled into methanol.
- However, the technology for this purpose needs further refinement and scaling up.
- Also, internal combustion engines now can accept methanol-doping of only up to 15% with minimal modification.
- Higher levels of blending will require changes in engine design.
- Despite these, the overall gains from the use of methanol outweigh the cost of surmounting the drawbacks.
- It could certainly add a new dimension to the country's energy security.

13.8 NITI Aayog's Report on Water Management

Why in news?

NITI Aayog has released Composite Water Management Index

What is the Index About?

- The NITI Aayog's Composite Water Management Index ranks States on water management on the basis of nine parameters.
- The report assesses States on restoration of surface and ground water, development of watersheds, participatory irrigation, sustainable farming and urban water supply and sanitation.
- According to the report 600 million people face high-to-extreme water stress, 75 per cent of the households do not have drinking water.
- 84 per cent do not have piped water access 70 per cent of India's water is contaminated.



- The report stated that even when water is available, it is likely to be contaminated, resulting in nearly 2,00,000 deaths each year

What are the concerns spotlighted by the report?

- The report without going into the methodology on how States have been assessed, is just concerned about quick results in water management, as it is about the performance of States on ease of doing business.
- Even as India relies increasingly on groundwater for its irrigation and livelihood needs, with rivers running dry or being reduced to sewers.
- It has recently come to light that uranium contamination is commonplace.
- With water levels dropping to 1,000 feet in dry regions of peninsular India in particular, fluoride contamination too is on the rise.
- Places Gujarat, Madhya Pradesh, Andhra Pradesh, Karnataka and Maharashtra in the top five.
- Meanwhile, free electricity in developed states for agriculture has led to a precipitous decline in the water table, despite the State being endowed with surface water.
- Resource intensive farming practices, encouraged by faulty policies are prime reasons for depletion of water resources.

What measures needs to be taken?

- The Centre expects a new groundwater management regime as well as a technology partnership with Israel to make a difference.
- Water management needs hard political choices, such as pricing water use and weaning farmers away from paddy and sugarcane in dry, rainfed regions.
- Apart from this the report should expand the scope of its inquiry to look at socio-economic aspects.
- A socio-political consensus is also needed to restore rivers and watersheds, by checking over-development of eco-sensitive spots, sand mining and dumping of municipal and industrial waste.

13.9 Water Stress in India

What is the issue?

- The NITI Aayog's water management index was released recently.
- This, along with a NABARD sponsored study on water productivity of different crops depicts the country's increasing water stress.

What are the highlights of NITI Aayog's report?

- The current water crisis in the country is said to be the worst in history.
- NITI Aayog maintains that about 600 million people face high to extreme water scarcity.
- This is almost half the population of the country.
- About 200,000 people die every year due to lack of safe water.
- The crisis will escalate with the water availability dwindling to merely half of the effective demand by 2030.
- Groundwater resources (40% of total water supply) are also predicted to deplete rapidly.
- This may accentuate water paucity in both rural and urban areas.
- Some 21 cities, including Delhi, Bengaluru and Hyderabad, will almost run out of groundwater by as soon as 2020.
- If these come true, around 40% of the population will lose access to water.
- Also, the gross domestic product (GDP) will take a hit of about 6%.

What does NABARD's study reveal?

- It holds the overuse of water in the agricultural sector responsible for the present adversity.
- Over two-thirds of the nation's available water is consumed in the farm sector.

- In this, about 80% goes just to three crops — rice, wheat and sugarcane.
- The most intensive cultivation of these water-guzzling crops is high in water-stressed regions.
- E.g. sugarcane in Maharashtra, rice and wheat in Punjab and Haryana.
- The report attributes the water crisis to unsustainable cropping trends.
- This in turn is attributed to ill-advised incentives
 - i. liberally determined minimum support prices
 - ii. assured marketing through open-ended procurement
 - iii. subsidised or free supply of water and power

13.10 Uranium Contamination in Ground Water

What is the issue?

- Reports of widespread uranium contamination in groundwater across India demand an urgent response.
- Groundwater contamination across India must be probed and mapped, and safe sources need to be identified.

What is the scenario of uranium contamination?

- **Evidence** - A recent study, has found over 30 micrograms per litre (mcg/l) of the heavy metal in parts of north-western, southern and south-eastern India.
- Reports of uranium contamination has cropped up across India in recent years, with south Bangalore recording 2000 mcg/l of uranium in groundwater.
- Previously, regions of Andhra Pradesh and Telangana were found to have over 500 mcg/l of uranium in their aquifers.
- More recently, parts of Gujarat and Rajasthan recorded undesirable uranium levels in their waters.
- **Regulations** - Drinking such water can damage one's kidneys, and the World Health Organization (WHO) prescribes '30 mcg/l' as an upper limit.
- But unfortunately, the residents of the regions surveyed were using wells recording far greater uranium levels as their main source of drinking water.
- Significantly, as the "Bureau of Indian Standards" does not specify a norm for uranium level, water is not tested regularly for it.

What are the health effects?

- Preliminary studies on the health effects of drinking uranium-tainted water among animals and humans have revealed that it causes kidney damage.
- Notably, this is said to be caused by the chemical effect of uranium, rather than a radiological, even though uranium is radioactive.
- Nonetheless, we need more comprehensive systematic studies to establish the chronic health effects of uranium exposure.

How does uranium enter ground water?

- The mechanism by which uranium enters groundwater is still under research.
- Two types of terrains have been identified with heavy contamination, namely:
 - Alluvial aquifers in Rajasthan and other north-western regions

Tainted groundwater

Sixteen States show a high prevalence of uranium concentrations above the WHO provisional guideline value (30 µg/L)

- India has no standards for uranium levels in groundwater
- There have been reports of high levels of uranium in Andhra Pradesh
- Over-pumping of groundwater causes a decline in water levels
- This induces oxidation conditions that enhance uranium enrichment in shallow groundwater



Source: "Large-Scale Uranium Contamination..." Rachel M. Coyte et al.

- Crystalline rocks such as granite in southern regions like Telangana.
- Some researchers have hypothesized that over-extraction of ground water exposes uranium to air, which triggers its release from the rocks.
- Further research is needed in this regard as it would help in identifying regions where safer water can be found.
- Notably, even information of how uranium accumulated with the rocks (during sedimentation), would help in estimating the regions of prevalence.

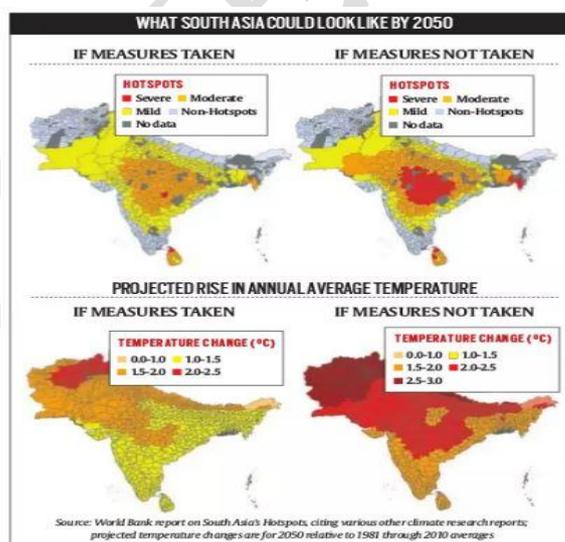
13.11 World Bank Report on Climate Change Impacts

Why in news?

World Bank has released South Asia's Hotspots - The Impact of Temperature and Precipitation Changes on Living Standards report.

What are the findings of the World bank report?

- A World Bank report has estimated the impacts of climate change on the GDP and living standards in India and region.
- The report found that rising temperatures and changing monsoon rainfall patterns from climate change could cost India 2.8% of GDP.
- Which would also depress the living standards of nearly half the country's population by 2050.
- It looks at six countries in South Asia and how projected changes in temperature and precipitation will affect living standards in these countries.
- The report has used annual household consumption as a proxy for living standards, and identifies "hotspots" districts where these changes will have a notable effect on living standards.



What are the concerns spotlighted by the report?

- For the region, the report has found that India, Bangladesh, Pakistan and Sri Lanka will be adversely affected by these changes, while Afghanistan and Nepal will benefit as they are relatively cold.
- Based on the rise in average temperatures over the past six decades and the projected rise, the report predicts more warming inland and less warming in coastal areas beyond 2050.
- For India, it has projected that living conditions in Chhattisgarh and Madhya Pradesh will decline by more than 9%, followed by Rajasthan, Uttar Pradesh and Maharashtra.
- The report states approximately 600 million people in India today live in locations that would become moderate or severe hotspots by 2050 under the carbon-intensive scenario.

What are the scenarios taken into account by the report?

- The report looks at two scenarios namely Climate-sensitive and Carbon-intensive.
- **Climate-Sensitive** - It represents a future "in which some collective action is taken to limit greenhouse gas emissions and global annual average temperatures increase 2.4°C by 2100 relative to pre-industrial levels.
- **Carbon-Intensive** - It represents a future in which no actions are taken to reduce emissions and global annual average temperatures increase 4.3°C by 2100 relative to pre-industrial levels.

How will such scenarios play out in India?

- The report states the information will be useful for designing a social welfare programme at the national level, and for determining which investments would be most needed in each community.
- If no measures are taken, average temperatures in India are predicted to increase by 1.5-3°C by 2050.



- If preventive measures are taken along the lines of the Paris Agreement, India's average annual temperatures are expected to rise by 1-2°C by 2050, the World Bank report states.

14. INTERNAL SECURITY

14.1 Opening Roads in Military Cantonments

What is the issue?

- Government recently ordered the opening of all roads in military cantonments.
- Families of Army officers and retired Army personnel are increasingly opposing this move.

What are military cantonments?

- Cantonments are designed as places of residence of both civilians and military personnel.
- There are nearly 60 cantonments across the country.
- Cantonment Boards are elected bodies.
- They run schools, hospitals, and vocational training centres.
- They cater to a civilian population of more than 21 lakh.
- Moreover, cantonments are notified in the gazette and governed by an Act of Parliament.
- Any change in the governance of cantonments needs an amendment to the Act by Parliament.
- This includes barring civilians from using the roads within them.

What was the problem?

- Some cantonment roads are closed for the general public.
- There were instances in which places of worship could not be reached due to closure of these routes.
- Other incidents highlighted the cemetery becoming inaccessible due to these restrictions.
- Some roads were closed by the local military authorities without following the existing procedure.

What is the government's decision?

- A government order for opening all roads in cantonments was issued.
- Also, a procedure for closing any road was also formally given by the Defence Ministry.
- It will be based on intelligence inputs and for security considerations.
- The Ministry proposes to undertake a review of the state of roads in cantonments soon.

What are the concerns?

- The major objection to the opening of roads is related to the security of military installations.
- Also, the families of Army personnel staying inside the cantonments.
- There is also a fear that the land mafia might try to encroach on defence land in the cantonments.
- Retired officers complain that the decision was taken without consulting the Army.
- The issue has suggested a deterioration of civil-military relations.

What is the government's response?

- The order was issued only after a litany of complaints to the Ministry.
- The government argues that its orders do not affect the security posture.
- This is because they do not deal with military stations but only with cantonments.

14.2 Self Reliance in Defence Production

What is the issue?

- The Defence Production Policy (DProP) 2018 has set ambitious goals for 2025.
- There is a need for some fine tunings in defence industry to achieve the goal of self reliance.



What does the policy provide for?

- It includes provisions for boosting production, exports, and investment.
- It would, thereby, create two-three million jobs domestically.
- It also aims to achieve global leadership in artificial intelligence and cyberspace technology.
- To drive this policy, the government has identified 13 product categories.
- It has permitted 74% FDI in “niche” technologies.
- It plans to develop two defence production corridors.
- It also plans to constitute private sector units and to establish defence innovation hubs.
- Given all these, there are some misconceptions as to the strategies adopted for self-reliance in defence manufacturing.

Why is the FDI route less likely to work?

- There is a mistaken belief that production companies decide on transfer of technology.
- But it is the governments, not manufacturers that decide technology transfer.
- It is based on political and military considerations, geopolitical factors and long term business commitments.
- It is also believed that foreign manufacturers would be attracted by the mega Indian market for their products.
- However, certain cutting-edge technologies are closely guarded.
- Foreign companies will not part with them under any circumstances.
- Also, no government can assure the foreign companies that orders will continue to be placed for all time to come.
- Clearly, the FDI route is no salvation for self-reliance in defence production.

What is the challenge?

- Military needs reliable combat/combat support systems to counter threats.
- Technology of the equipment should match, or preferably be better than, the technology of the adversaries.
- The military expects product support, trainers and simulators.
- It also requires mid-life upgrades during the equipment life cycle which typically will be about 20 years.
- Importantly, research, design and development and manufacture are closely coupled.
- However, in reality, domestic industry lacks the capability, domain knowledge, skill, expertise and experience or capacity.
- It includes adequate trained manpower, specialised test facilities, test ranges, etc.

What could be done?

- **DRDO** - Industry could be the lead agency for development of new products.
- However, it may sub-contract development of certain sub-systems to a DRDO laboratory.
- The industry’s managerial expertise and DRDO’s technical expertise could be coupled for optimum results.
- **Funding** - Presently, the MoD funds the DRDO for development of new products.
- It results in minimal interaction between the armed forces and the developer.
- Instead, the armed forces should fund these developments from their own budgets.
- This would be an essential structural change which would give them a sense of “ownership”.
- It will give the armed forces an incentive to
 - i. monitor the progress at regular intervals
 - ii. participate in inevitable trade-offs between conflictual requirements
 - iii. make-buy decisions



- iv. trials at sub-system stage
- v. authorise release of funds based on accomplishment of milestones, etc
- It would also minimise time and cost overruns and shortfall in specifications.
- The armed forces would need to develop project monitoring skills.
- **Manufacturing ecosystem** - The manufacturing industry is organised into a three/four tiered structure.
- Tier one companies are “integrators”.
- The whole chain forms an “ecosystem” which the DProP 2018 recognises.
- However, it is industry which can create and nurture such ecosystems, not the government.
- To assure long term loyalty and commitment, tier one companies have to necessarily support MSMEs initially.
- The defence production sector would need about 20 tier one companies and several lower tier companies.
- All these in conjunction can make the DProP 2018 a successful one towards self reliance in defence production.

PRELIM BITS

HISTORY

Ambubachi Mela

- Ambubachi Mela is a four-day fair to mark the annual menstruation of the goddess at Kamakhya temple in Nilachal Hills in Guwahati, Assam.
- Kamakhya temple is one of 51 shaktipeeths or seat of Shakti followers.
- Shakti peeth is originated based on the story of the death of goddess Sati.
- God Shiva who held her dead body, then started his dance of destruction, causing Sati's body to disintegrate and fall into pieces.
- The sites where these portions of Sati goddess fell, are the Shakti peeth.
- Kamakhya temple's sanctum sanctorum houses the yoni - female genital symbolised by a rock.
- Ambubachi Mela is also considered as an occasion to promote awareness on menstrual hygiene.
- This ritualistic fair is one of the reasons why the taboo associated with menstruation is less in Assam compared with other parts of India.
- **Four Major Shakti Peeths in India** - Jagannath Temple, Puri; Kamakhya Temple near Guwahati; DakshinaKalika in Kolkata; Tara Tarini near Brahmapur, Odisha.

Badshahi Ashurkhana

- Telangana government and Aga Khan Trust are working to restore the Ashurkhana monument.
- BadshahiAshurkhana is a Shia Muslim mourning place, near Charminar in Hyderabad, India.
- It was constructed in memory of martyrdom of Imam Hussain, and is used during the festival of Moharram.
- It was built by Muhammed QuliQutb Shah in 1611, three years after building the Charminar.
- The Ashoorkhana turns into a pilgrimage site when alams (battle standards) are installed to commemorate the battle of Karbala in 680 A.D. Ashoora or 10th day of Muharram is when the battle took place.
- The monument was lost for several decades when Emperor Aurangzeb's forces turned it into a bandikhana to keep wheeled vehicles.

The Buddhas of Bamiyan

- The Bamiyan valley is enclosed by the Hindu Kush Mountains, which is located in Afghanistan.

- The valley lies on the ancient Silk Route and hence, witnessed several developments.
- It was an important hub for trade and served as the site for early Hindu-Buddhist settlements from which it takes its name.
- Several Buddhist monasteries, caves and Buddha statues can be found across the valley.
- The Cultural Landscape and Archaeological Remains of the Bamiyan Valley comprise eight separate sites spread across the valley and its tributaries.
- Of these, the Bamiyan cliffs where once two giant Buddhas stood are the most famous.
- The valley is a UNESCO world heritage site.



Chhau Dance

- Recently the distinctive Chhau mask of Purulia, West Bengal was awarded the Geographic Indication tag.
- The traditional rural craft of making masks is an integral component of the semi-martial art dance form of Chhau.
- Chhau dance is a tradition from eastern India that enacts episodes from epics including the Mahabharata and Ramayana, local folklore and abstract themes.
- Its three distinct styles hail from the regions of Seraikella (Jharkhand) , Purulia (West Bengal) and Mayurbhanj (Odisha), the first two using masks.
- Chhau dance is intimately connected to regional festivals, notably the spring festival Chaitra Parva.
- The dance is performed at night in an open space to traditional and folk melodies, played on the reed pipes "mohuri" and "shehnai."
- In 2010 the Chhau dance was inscribed in the UNESCO's Representative List of the Intangible Cultural Heritage of Humanity.

Warli Art

- Warli is a tribal art form that was mostly created by the Adivasis of the Western Ghats.
- It is one of the oldest art forms in India that originated in Maharashtra and is still practiced.
- The Warli tribe, which does these paintings, is one of India's largest tribes located on the outskirts of Mumbai.
- Their culture basis itself around the concept of Mother Nature; therefore, elements of nature serve as focal points for Warli paintings.
- These artists used to use the clay walls of their huts as a canvas for their paintings.
- These paintings use a set of geometric shapes – circle, triangle and square.
- This comes from the tribe's observation of nature as circle represents the sun and the moon, while the triangle represents the mountains and pointed trees.
- The square on the other hand is a human invention, indicating a sacred piece of land or enclosure.
- The Warli artists use only a white paste made out of rice paste and water and they use glue as a binder.
- Artists use a bamboo stick which is chewed at the end to give it a paintbrush like texture.
- In ritual Warli paintings, walls are painted only to celebrate special occasions like harvest or weddings

Pho Minh Pagoda of Viet Nam

- Union Cabinet has been apprised of the joint issue of a postage stamp between Department of Posts and Viet Nam Post.
- The Commemorative Postage Stamps on India-Viet Nam: Joint Issue depicts Sanchi Stupa of India and Pho Minh Pagoda of Viet Nam.



- Pho Minh Pagoda is a Buddhist temple in Vietnam, the home town of the Tran Dynasty.
- The statue of King Tran Nhan Tong lying on his left side shows him entering Nirvana is an important feature of the temple.
- The statues of the three founders of the Truc Lam Buddhist Sect, Tran Nhan Tong, Phap Loa and Huyen Quang are also found here.
- In addition, 60 red-lacquered and gold-trimmed Buddha and Saint Statues have been preserved in the pagoda.
- It is estimated that the 700-tonne tower relies on an area of only 30 square meters.

GEOGRAPHY

Longer Daylight – Summer Solstice

- June 21st had longer daylight hours (Summer Solstice) than any other day in a year.
- The reason behind is Earth's tilt - the axis of rotation of earth is tilted at an angle of 23.5°.
- It is combined with factors such as Earth's spin and orbit leads to variations in the duration of sunlight on any location on different days of the year.
- **Solstice** - On the Equator, day and night are equal every day.
- At latitudes of 23.5° (from the equator) are the Tropics of Cancer and Capricorn, north and south of the Equator.
- On each Tropic, the sun is directly overhead at noon once a year.
- When this happens on the Tropic of Cancer, it is **summer solstice** in the northern hemisphere.
- When on the Tropic of Capricorn, it is **winter solstice** in the northern Hemisphere.
- At 66.5° (from the equator) are the Arctic and Antarctic Circles, north and south.
- It is at latitudes higher than 66.5° (in either direction) that days of constant darkness or light occur.

Earth days getting longer due to Moon

- Due to the movement of the Moon away from the planet, days on the Earth are getting longer.
- According to a study which found that 1.4 billion years ago a day lasted just over 18 hours.
- It shows that 1.4 billion years ago, the Moon was closer and changed the way the Earth spun around its axis.
- Earth's movement in space is influenced by the other astronomical bodies that exert force on it, like other planets and the Moon.
- This helps determine variations in the Earth's rotation around and wobble on its axis, and in the orbit the Earth traces around the Sun.
- These variations are collectively known as Milankovitch cycles and they determine where sunlight is distributed on Earth, which also means they determine Earth's climate rhythms.
- Scientists have observed this climate rhythm in the rock record, spanning hundreds of millions of years.

Iceberg B-15

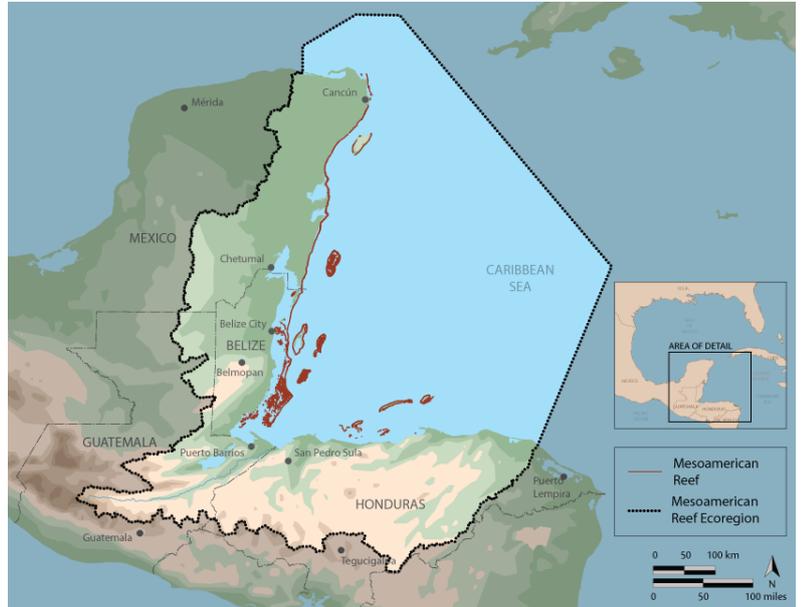
- Iceberg B-15 broke away from Antarctica's Ross Ice Shelf 18 years ago in 2000.
- It measured about 296 km long and 37 km wide.
- It is the largest iceberg ever recorded and could be nearing the end of its voyage.
- The iceberg may not be tracked if it splinters into smaller pieces.
- B-15 has since fractured into numerous smaller bergs, and most have melted away.
- Melting and breakup would not be surprising, given the berg's long journey and northerly location.
- Currents prevented the berg from continuing through the Drake Passage.

Eruption of Japan Volcano

- A Japanese volcano that figured in a 1960s James Bond movie erupted explosively.
- **Shinmoedake** volcano is in the southernmost main island of Kyushu, Japan.
- It is located in a mainly rural area about 985 km from Tokyo.
- It recently erupted after a strong earthquake of 6.1 magnitude shook the country's west Osaka region.
- Few months back, "Mount Io" erupted for the first time after 250 years.
- It is a part of the Mount Kirishima group of volcanoes and located few kilometres away from Shinmoedake.

Mesoamerican Reef

- The Mesoamerican Reef is an underwater wonder world in the **coast of Belize**.
- It is second in size only to the Great Barrier Reef in Australia.
- The Caribbean reef was named to the prestigious World Heritage List in 1996.
- It was placed on endangered status in 2009 because of Belize's plans to allow oil exploration nearby.
- The reef's survival was considered to be at risk for years.
- It may now be removed from UNESCO's list of threatened World Heritage Sites due to the efforts of activists and the Belizean government.

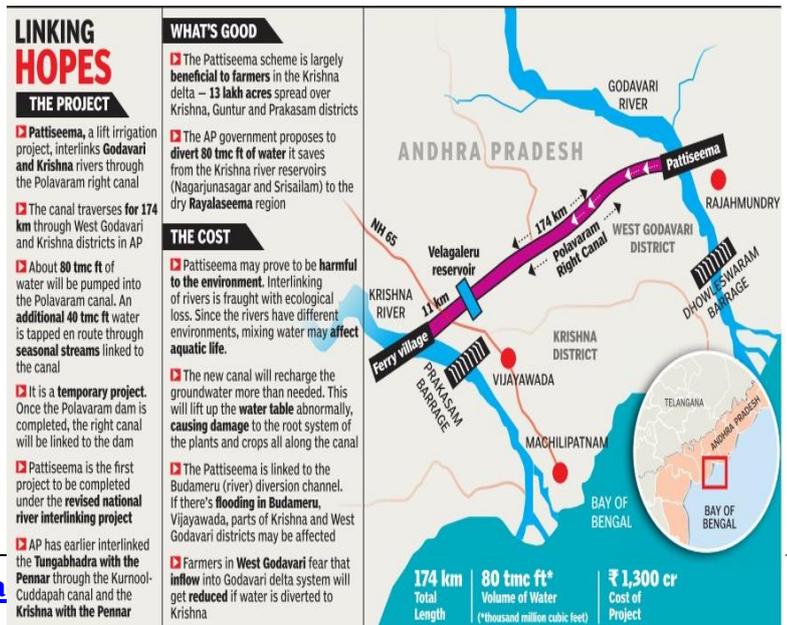


Monsoon and Pollution

- Monsoon plays a critical role in flushing out pollutants over Asia apart from being an essential source of water for Indian Agriculture.
- Increasing temperature over the period amplifies the seasonal heating of the Tibetan Plateau.
- This led to increased warming in the Upper Troposphere during late spring and early summer.
- It subsequently spurring enhanced monsoon rainfall over northern India during June and July.
- Scientists have pointed out, increased loading of black carbon in spring enhances the monsoon.
- But a recent study has found that increased pollution particularly from coal burning could potentially weaken this ability of the monsoon.
- Black carbon particles from coal burning may increase cloudiness and surface cooling of sea surface which can reduce the moisture flux into the monsoon convection, i.e. weaken the monsoon.

Pattiseema Lift Irrigation Scheme

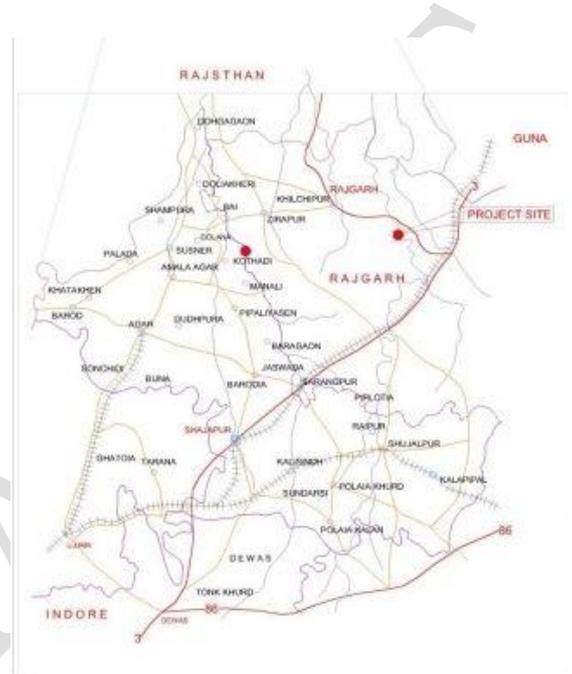
- Pattiseema lift irrigation project interlinked the Godavari river and the Krishna river in Andhra's West Godavari district.
- It was designed to lift 120 tmcft (thousand million cubic feet) water from Godavari and release it into the Krishna.



- It sought to meet the irrigation and drinking water needs of drought-prone Rayalaseema region in the state.
- It was declared as the first and fastest such irrigation project in the country to be completed on time, without any budget enhancements.
- It is claimed to be the first-ever river interlinking in south India.
- **Lift Irrigation project** - Pumps are used to lift the water from canals or rivers at lower level to the area at higher level for irrigation purpose.

Mohanpura Irrigation Project

- The irrigation project is in Rajgarh District in Madhya Pradesh.
- The project is implemented under the Pradhan Mantri Krishi Sinchai Yojana.
- It was recently inaugurated by the Prime Minister of India.
- The Rs 3,866-crore project includes a dam and a canal system.
- It is constructed on river Newaj in Chambal River Basin.
- The Environmental Impact Assessment (EIA) dated May 2013 has been done by WAPCOS, an agency under Union Water Resources Ministry.
- EIA has not taken into consideration the impact of this project on National Chambal Sanctuary which spreads across Madhya Pradesh, Rajasthan and Uttar Pradesh.
- The project will have significant impact of water, silt and nutrient flow pattern into the Chambal River.



Strategic Petroleum Reserve (SPR)

- The Union Cabinet has recently approved establishment of additional 6.5 Million Metric Tonne (MMT) SPR facilities at two locations, i.e. **Chandikhol in Odisha and Padur in Karnataka**.
- India's strategic crude oil storages are currently located at Visakhapatnam (1.33 MMT), Mangaluru (1.5 MMT) and Padur (2.5 MMT).

Deccan Queen

- The introduction of "Deccan Queen" between the two premier cities of Maharashtra on 1st June 1930 was a major landmark in the history of the Great Indian Peninsula Railway.
- The Great Indian Peninsula Railway is the forerunner of the Indian Railways.
- This was the first deluxe train introduced on the railway to serve two important cities of the region and was aptly named after Pune, which is also known as "Queen of Deccan" ("Dakkhanki Rani").
- The management systems of Deccan Queen (2123 Dn / 2124 Up) have been assessed by International Services Ltd. and found to comply with the requirements of ISO 9001-2000.

Deendayal Port in Kandla

- The Standing Finance Committee of Ministry of Shipping has cleared a project for setting up an exclusive, fully mechanized handling facility for fertilizer cargo at Deendayal Port in Kandla.
- Kandla, also known as the Deendayal Port Trust is a seaport in Kutch District of Gujarat state in western India, near the city of Gandhidham.
- It is located on the Gulf of Kutch.



- It is one of major ports on west coast.
- Kandla was constructed in the 1950s as the chief seaport serving western India, after the partition of India from Pakistan left the port of Karachi in Pakistan.
- The Port of Deendayal is located some 256 nautical miles southeast of the Port of Karachi in Pakistan and over 430 nautical miles north-northwest of the Port of Mumbai (Bombay).
- Deendayal Port Trust, India's busiest major port in recent years, is gearing to add substantial cargo handling capacity with private sector participation.

POLITY

Right to Information (RTI) Act

- RTI act was enacted in 2005 which mandates timely response to citizen requests for government information by public authorities as well as union and state governments.
- Public authority as defined by the act under Section 2(h) includes,
 - Any authority which is established by constitution or by any law made by the parliament or state legislature.
 - Any authority created by notification issued or order made by the Central Government or a State Government.
 - Bodies owned, controlled or substantially financed by the Central Government or a State Government.
 - Non-Government organisations substantially financed directly or indirectly by the Central Government or a State Government.
- RTI specifies information is required to be published **within 120 days** of the notification of the Act in respect of the items listed therein.
- The government has proposed amendments to RTI act, 2005.
- Recently, RTI activist has sought information about those proposed amendments to the act, but it was denied by the government citing Section 8(i) (i) of the RTI act.
- Generally, **Section 8** of the RTI Act exempts 'information, disclosure of which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the State, relation with foreign State or lead to incitement of an offence'.
- Sec 8(i)(i) exempts the government from giving information about Cabinet papers, including records of deliberations of the Council of Ministers, Secretaries and other officers.

GOVERNMENT INITIATIVES

Swajal Yojana

- Swajal yojana was recently launched by Ministry of Drinking Water and Sanitation in 115 aspirational districts in the country.
- It is a community owned drinking water programme for sustained piped drinking water supply powered by solar energy.
- It ensures the availability of clean drinking water to every household round the year.
- The scheme will train hundreds of rural technicians for operation and maintenance of Swajal units which generates employment in the rural areas.
- Under the scheme, 90% of the project cost will be taken care by the Government and the remaining 10% of the project cost will be contributed by the community.
- The Operations and management of the project will be taken care by the local villagers.

Smart City Tag

- The Centre has finally announced Shillong (Meghalaya) as the 100th and the last city under the "Smart City Project".
- Every city gets five years to complete its projects and the end date for Shillong is 2023.
- Each selected city is required to set up a Special Purpose Vehicle which will carry out the mission.

India Smart Cities Award



- The “India Smart Cities Award” was constituted last year to give awards in 3 categories with an objective to reward cities, projects and innovative ideas, promoting sustainable development in cities.
- The categories are “Project Award, Innovative Idea Award and City Award”.
- Eligible Participants were Smart Cities only, where respective ULBs / Smart City SPVs were to submit proposals.
- This year, the **city award** is being given to Surat.
- It is for showing great momentum in implementation of projects especially in the categories of urban environment, transport and mobility and sustainable integrated development.
- The **Innovative Idea award** is being given to a project/idea particularly remarkable for its innovative, bottom-up and transformative approach.
- **Bhopal** for their Integrated Command and Control Centre (ICCC) and **Ahmedabad** for Safe and Secure Ahmedabad (SASA) Project were awarded this year.
- The **Project awards** are being given to most innovative and successful projects in several categories.
- Some of the categories are Governance, Built Environment, Social Aspects, Culture and Economy, Urban environment, Transport and Mobility, Water and Sanitation.

National Health Resource Registry (NHRR)

- Ministry of Health and Family Welfare has launched NHRR, which is the first ever registry for health resource in the country.
- It contains registry of authentic, standardised and updated geo-spatial data of all public and private healthcare.
- The Indian Space Research Organisation (ISRO) is the project technology partner for providing data security.
- It shall enable advanced research towards ongoing and forthcoming healthcare challenges.
- It shall also enhance the coordination between central and state government for optimisation of health resources.
- The Central Bureau of Health Intelligence (CBHI) has involved key stakeholders, including leading associations, allied ministries, and several private healthcare service providers.

Centre for Humanitarian Forensics

- **Gujarat** is set to come up with the world's first International Centre for Humanitarian Forensics (ICHF).
- It will facilitate better management of bodies during emergencies such as disasters.
- It was inaugurated at the Gujarat Forensic Sciences University (GFSU).
- It is a joint venture of the International Committee of the Red Cross (ICRC) Regional Delegation for India, Bhutan, Nepal and the Maldives, and GFSU.

First Advanced Forensic Lab

- Hon'ble Minister for Women and Child Development laid foundation of Sakhi Suraksha Advanced DNA Forensic Laboratory in the campus of Central Forensic Science Lab, Chandigarh.
- In Sakhi Suraksha Advanced DNA Forensic Laboratory, four units are to be established to address cases related to women:
 1. Sexual Assault and Homicide Unit
 2. Paternity Unit
 3. Human Identification Unit
 4. Mitochondrial Unit
- Mitochondrial Unit will conduct mitochondrial DNA analysis in cases where regular Nuclear DNA analysis is not possible such as in case of highly degraded samples.
- The Mitochondrial Unit can also be used to better explore family relationships.



- Forensic science plays a vital role in the criminal justice delivery system by providing investigators with scientifically based information through the analysis of physical evidence.

Udyam Sangam-2018

- President of India has recently launched Udyam Sangam to mark UN SME (Small and Medium sized Enterprises) Day.
- In April 2017, the United Nations General Assembly declared June 27 would be World SME day.
- The inaugural event was celebrated last year, including in Melbourne.
- The day was designed to highlight and celebrate the significant contribution SMEs make to the global economy and to the **UN's global 2030 Agenda for Sustainable Development**.

Sampark Portal

- The portal was recently unveiled by the President of India.
- It is under the Ministry of MSME.
- The portal will act as a bridge between the talent pool and those enterprises seeking trained man power.

Solar Charakha Mission

- The mission was recently launched by the President of India.
- The mission is under the Ministry of MSME.
- It is technology revolution scheme in the cotton industry, under which Charkas (Spinning wheel for making Khadi) are operated using solar energy.
- Charkhas spun by hand have a limit on production.
- Thus developing wheels with more spindles that can run on solar power will increase the production.
- It will cover 50 clusters and every cluster will employ 400 to 2000 artisans.
- Government of India will disburse subsidy of Rs. 550 crore to the artisans.
- The aim is to grow khadi sales from Rs. 26,000 crores to 1 lakh crores.

Repealing of UGC

- Ministry of HRD has prepared a bill to repeal apex body University Grants Commission (UGC).
- The bill is named as "Higher Education Commission of India (Repeal of University Grants Commission Act) Bill 2018".
- It provides for setting up of Higher Education Commission of India in place for UGC.
- The focus of Higher Education Commission of India (HECI) will be on improving academic standards and the quality of Higher Education.
- The new regulator will not have funding powers like its predecessor.
- The grant functions would be carried out by the HRD Ministry, and the HECI would focus only on academic matters.
- It will have powers to **ensure academic quality**.
- It will develop norms for setting standards for opening and closure of institutions, provide for greater flexibility and autonomy to institutions.
- It will lay **standards for appointments to critical leadership** positions at the institutional level irrespective of University started under any Law (including State Law).
- The UGC published lists of bogus institutions. The HECI will be empowered to **shut down substandard/bogus institutions**.
- **End of Inspection Raj** – UGC conducted inspections to assess institutions. The HECI will practically do away with these and shift to a regime of "transparent disclosures".

Aspirational Districts Programme

- **NITI Aayog** will release the First Delta Ranking of the Aspirational Districts Programme.
- The parameters are Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Basic Infrastructure through 49 key performance indicators.
- The ranking will measure the incremental progress made by districts between March 31, 2018 and May 31, 2018.

DISHA initiative

- District Development Coordination and Monitoring Committee (DDCMC) is named as “DISHA” by the Ministry of Rural Development.
- It is for effective development coordination of almost all the programmes of Central Government.
- It monitors the implementation of 28 schemes and programmes of Ministry of Rural Development and other Ministries to promote synergy and convergence for greater impact.
- The main purpose of this committee is to coordinate with **Central and State and local Panchayat Governments**.
- The Chairperson of the committee will be the senior most Member of Parliament (Lok Sabha) elected from the district, nominated by the Ministry of Rural Development.
- The other Members of Parliament (Lok Sabha) representing the district will be designated as Co-Chairpersons
- DISHA Week is being celebrated from 25th to 29th June, 2018 to mark the successful completion of 2 years of the District Development Coordination & Monitoring Committee (DISHA).

ReUnite

- ReUnite is a mobile application launched recently to trace missing and abandoned children in India.
- The app is **multiuser** where parents and citizens can upload pictures of children, and provide detailed description like name, birth mark, address, report to the police station, search and identify missing kids.
- Non-government organisation **BachpanBachaoAndolan** and Capgemini has developed this app.

National Career Service Project

- The Ministry of Labor and Employment is implementing the National Career Service (NCS) project as a mission mode project.
- It is to provide a variety of employment related services like career counseling, vocational guidance, information on skill development courses, apprenticeship, internships etc
- It has a rich repository of career content of over 3000 occupations.
- The NCS project has also been enhanced to interlink all employment exchanges with the NCS Portal so that services can be delivered online.
- The scheme provides for part funding to states for IT up gradation and minor refurbishing of employment exchanges and for organizing job fairs.

India's first indigenous Lithium Ion Battery project

- Central Electro Chemical Research Institute (CECRI), Karaikudi, Tamil Nadu and RAASI Solar Power Pvt Ltd have signed a Memorandum of Agreement for transfer of technology for India's first Lithium Ion (Li-ion) Battery project.
- CECRI is under Central Science and Industrial Research (CSIR).
- CSIR-CECRI has set up a demo facility in Chennai to manufacture prototype Lithium-Ion cells.
- It has secured global IPRs with potential to enable cost reduction, coupled with appropriate supply chain and manufacturing technology for mass production.
- Currently, Indian manufacturers source Lithium Ion Battery from China, Japan and South Korea among some other countries.



- India is one of the largest importers and in 2017, it imported nearly 150 Million US Dollar worth Li-Ion batteries.
- Li-Ion batteries have applications in Energy Storage System – from hearing aid to container sized batteries to power a cluster of villages etc.,
- Lithium-ion batteries can power any electrical application without the need of physical wires-means wireless.

Initiatives of the Ministry of Coal

- Some of the important initiatives of Ministry of Coal are discussed below.
- **UTTAM App** has been launched for ensuring transparency and efficiency in coal quality monitoring process.
- Scheme for Harnessing and Allocating Koyala Transparently in India (**SHAKTI**), for auction and allotment of coal linkages, will lead to affordable power and transparency in allocation of coal.
- Commercial Coal Mining, most ambitious coal sector reform ever, will help in creating direct and indirect employment through higher investment and better technology.
- The reforms in the country's coal sector have contributed to enhancing energy capacity, efficiency, and security.

Swachh Iconic Places (SIP)

- The third phase of SIP was launched at Mana village which is situated close to the Badrinath temple in Uttarakhand.
- Sabarimala in Kerala and the Raghavendra Swamy temple in Kurnool of Andhra Pradesh are among the 10 iconic sites added to the phase III Swachh Iconic Places (SIP) mission
- The Swachh Iconic Places is an initiative under the Swachh Bharat Mission.
- SIP is a collaborative project with three other central Ministries- Ministry of Housing and Urban Affairs, Ministry of Culture and Ministry of Tourism.
- It also involves local administrations in the concerned States and Public Sector and Private Companies as sponsoring partners.
- It is a special clean-up initiative focused on select iconic heritage, spiritual and cultural places in the country.

SKOCH awards

- The Skoch Awards recognize leadership and excellence in accelerating socio-economic changes.
- It has become a benchmark of best practices in India in the fields of governance, infrastructure, finance, banking, technology, corporate citizenship, economics and inclusive growth.
- Recently, Sagarmala project received the 'Gold Award' in infrastructure sector in the 52nd Skoch Summit 2018 in New Delhi.
- Sagarmala is the Ministry of Shipping's flagship programme for port-led-prosperity.
- It focuses on four pillars such as Port Modernization, Port Connectivity, Port-linked Industrialization and Coastal Community Development.
- It aims to double the share of domestic waterways (inland & coastal) in the modal mix.

Kashmir Super 50

- Project Kashmir Super 50 is a joint initiative by Indian Army, Center for Social Responsibility and Leadership (CSRL) and PETRONET LNG Limited (PLL).
- It was launched in 2013 to transform the educational status of children from economically weaker sections in the Kashmir region.
- As part of the 11-month program, selected students are provided with complete free residential coaching for IIT-JEE, JKCET and other premier Engineering Institutes.
- The project has equally helped the families of these youths in their growth and prosperity.
- It is a major initiative towards bringing normalcy in the valley.



- On similar lines of Kashmir Super 50 for engineering aspirants, Indian Army is planning to provide selected students with complete free residential coaching for National Eligibility-cum-Entrance Test (NEET).

GOVERNMENT SCHEMES

Suryashakti Kisan Yojana (SKY)

- Gujarat government has recently launched “SuryashaktiKisan Yojana”, a solar power scheme for farmers.
- It enables farmers to generate electricity for their captive consumption as well as sell the surplus power to the grid and earn an extra income.
- This is the first such scheme in the country.
- As per the scheme, farmers having existing electricity connection will be given solar panels as per their load requirements.
- The State and Central governments will give 60 per cent subsidy on the cost of project.
- The scheme duration is 25 years, which is split between 7-year period and 18-year period.
- The scheme envisages setting up of separate feeders for agricultural solar energy consumption.

Van Dhan Scheme

- The scheme is under the Ministry of Tribal Affairs.
- Van Dhan Mission is an initiative for targeting livelihood generation for tribals by harnessing non-timber forest produce.
- Under the scheme, 10 Self Help Groups of 30 Tribal gatherers are being trained and provided with working capital to add value to the products, which they collect from the Jungle.
- It also aims at build upon the traditional knowledge & skill sets of tribals by adding technology & IT for value addition.
- It also focussed on setting-up of tribal community owned Van Dhan Vikas Kendras in predominantly forested tribal districts.

Poshan Abhiyan/National Nutrition Mission

- Recently, Ministry of Women and Child Development has organised TECH-THON for POSHAN Abhiyaan.
- PM’s Overarching Scheme for Holistic Nourishment (POSHAN) Abhiyan strive to reduce the level of stunting, under-nutrition, anemia and low birth weight babies.
- It targets to reduce stunting, undernutrition, anemia and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively.
- **Mission 25 by 2022** – Although it targets to reduce stunting by 2%, Mission would strive to achieve reduction in Stunting from 38.4% (NFHS-4) to 25% by 2022.
- It may include the following nutrition strategies and interventions
 1. supplementary nutrition,
 2. IYCF(Infant and Young Child Feeding)immunisation,
 3. food fortification,
 4. adolescent nutrition,
 5. dietary diversification
 6. maternal health
- Behavior change communication is the key component of POSHAN Abhiyaan for converting it into Jan Andolan (People’s movement).
- All the States and districts will be covered in a phased manner i.e. 315 districts in 2017-18, 235 districts in 2018-19 and remaining districts in 2019-20.
It will be funded 50% by the Government of India and 50% by World Bank or other Multinational Development Banks.



- The Executive Committee is the Apex body for all Nutrition related activities under the POSHAN Abhiyaan.
- National Council on India's nutritional challenges under chairmanship of Vice Chairman, NITI Aayog, has been set up under the POSHAN Abhiyaan.

Krishi Kalyan Abhiyan

- The Ministry of Agriculture and farmers' welfare has launched the Krishi kalyanAbhiyaan so as to aid, assist and advice farmers on how to improve their farming techniques and raise their incomes.
- The Krishi kalyanAbhiyaan will be undertaken in 25 Villages with more than 1000 population each in Aspirational Districts identified in consultation with Ministry of Rural Development as per directions of NITI Ayog.
- The overall coordination and implementation in the 25 villages of a district is being done by Krishi Vigyan Kendra of that district.
- Various activities to promote best practices and enhance agriculture income are being undertaken under this plan such as:-
 1. Distribution of Soil Health Cards to all farmers
 2. 100% coverage of bovine vaccination for Foot and Mouth Disease (FMD) in each village
 3. 100% coverage of Sheep and Goat for eradication of Peste des Petits ruminants (PPR)
 4. Distribution of Mini Kits of pulses and oilseeds to all
 5. Distribution of Horticulture/Agro Forestry/Bamboo plant @ 5 per family(location appropriate)
 6. Artificial insemination saturation
 7. Demonstration program on Micro- irrigation

Seva Bhoj Yojna

- The Ministry of Culture, Government of India has introduced a new scheme namely 'SevaBhojYojna'.
- The scheme envisages to reimburse the Central Government share of Central Goods and Services Tax (CGST) and Integrated Goods and Service Tax (IGST) on purchase of few raw items.
- It includes ghee, edible oil, atta/maida/rava/flour , rice pulses, sugar, burra/jiggery etc which go into preparation of food/Prasad/langar/bhandara offered free of cost by religious institutions.
- The objective of the scheme is to lessen the financial burden of such Charitable Religious Institutions who provide Food/Prasad/Langar (Community Kitchen)/Bhandara free of cost without any discrimination to Public/Devotees.
- All the eligible institutions will be registered with Darpan portal.

Pradhan Mantri Matru Vandana Yojana

- Government has provided cash incentives to nearly 23.6 lakh beneficiaries out of an estimated 51.6 lakh a year under Pradhan Mantri Matru Vandana Yojana.
- The scheme was approved by the Union Cabinet in 2017 and is implemented by Ministry of Women and Child Development.
- Under the scheme, pregnant women and lactating mothers are offered a cash incentive of Rs. 6,000 on the birth of their first child as partial compensation for wage loss.
- It was done to reduce maternal mortality and malnutrition levels among children.
- Many States like Tamil Nadu, Telangana, Odisha and West Bengal have not yet implemented the scheme.
- These states account for 25 percent of the beneficiaries.
- Tamil Nadu, Telangana, Odisha and West Bengal have their own maternity benefit schemes and have been reluctant to implement the PMMVY.

Schemes related to Brain Drain Reversal

- The schemes launched to reverse the process of infamous 'brain drain' have finally started yielding results.

- This was reflected in the data presented at the first joint conclave of India's top three science fellowships.
- The three science fellowships are as follow,
 1. Ramanujan Fellowship of the Science and Engineering Research Board (SERB),
 2. Ramalingaswami Re-entry Fellowship of the Department of Biotechnology (DBT)
 3. INSPIRE Faculty Fellowship of the Department of Science and Technology (DST).
- The schemes cover all major disciplines of science.
- The Ramanujan Fellowship is meant for brilliant scientists from all over the world to take up scientific research positions in India.
- The Ramalingaswami Re-entry Faculty Fellowship of DBT was meant to bring back Indian scientists working abroad so that they can pursue their research interests of national relevance.
- INSPIRE Faculty Scheme opens up an 'Assured Opportunity for Research Career (AORC)' for young researchers in the age group of 27-32 years.

NATIONAL INSTITUTES IN NEWS

Central Adoption Resource Authority

- It is a statutory body under the Ministry of Women and Child Development.
- It functions as the nodal body for adoption of orphan, abandoned and surrendered children and is mandated to monitor and regulate the same.
- Govt of India in 2003 has ratified the **Hague Convention on Inter-country Adoption, 1993**.
- In accordance with the provisions of the convention, CARA was designated as the Central Authority to deal with inter-country adoptions.
- It has recently barred partners in live-in relationships from adopting a child on the ground that cohabitation without marriage is not considered a stable family in India.
- It permits a single woman to adopt a child of any gender, while single men can adopt only boys.
- In case an applicant is married, both spouses must give their consent for adoption and should be in a stable marriage for at least two years.

Directorate of Advertising and Visual Publicity (DAVP)

- DAVP is the nodal agency to undertake multi-media advertising and publicity for various Ministries and Departments of Government of India.
- Even some of the autonomous bodies and public sector firms also route their advertisements through DAVP.
- The advertisements are carried on various platforms, including print and visual media.
- Last year, a new entity called "**Bureau of Outreach Communication**" was formed by merging DAVP and Directorate of Field Publicity and Song and Drama Division.
- The merger is mainly for bringing in synergy for efficient publicity works of the government.
- Bureau of Outreach Communication is under the jurisdiction of **Ministry of Information and Broadcasting**.
- Government has recently decided to study the impact of its advertisements on people.
- It is aimed at drawing up a strategy for the judicious use of money for publicity.

Directorate of Revenue Intelligence (DRI)

- The officers of Directorate of Revenue Intelligence (DRI) have effected a seizure of 32 kgs of foreign origin gold valued at Rs 10.32 Crore, smuggled from China into India through the Indo-China Border in the State of Sikkim.
- The Directorate of Revenue Intelligence is the apex anti-smuggling agency of India.
- It is working under the Central Board of Indirect Taxes & Customs, Ministry of Finance, Government of India.



- It is tasked with detecting and curbing smuggling of contraband, including drug trafficking and illicit international trade in wildlife and environmentally sensitive items, as well as combating commercial frauds related to international trade and evasion of Customs duty.
- DRI was previously 'C.R.I.B.' (Central Revenue Intelligence Bureau) which was made in 1953.

National council of Senior Citizens

- 3rd Meeting of National Council of Senior Citizens (NCSC) was convened by the Ministry of Social Justice and Empowerment.
- The NCSC advises Central and State Governments on the entire gamut of issues related to welfare of senior citizens and enhancement of their quality of life.
- The NCSC meets at least twice a year.
- In pursuance of the National Policy for Older Persons (NPOP), 1999, a National Council for Older Persons (NCOP) was constituted under the Chairpersonship of the Minister for Social Justice and Empowerment to oversee implementation of the Policy.
- NCOP reconstituted and renamed as National Council of Senior Citizens (NCSC) in 2012.
- Union Minister for Social Justice and Empowerment is the Chairperson of NCSC and the Minister of State for Social Justice and Empowerment is the Vice-Chairperson.
- On 1st October every year (International Day of Older Persons (IDOP)) Vayoshreshtha Samman/National Awards are conferred in 13 categories to institutions and senior citizens for their outstanding contribution towards the cause of elderly persons since 2013.
- Members of the Council are entitled to make nominations for Vayoshreshtha Samman.

Bureau of Police Research and Development (BPR&D)

- Union Home Minister recently exhorted the Bureau of Police Research and Development (BPR&D) to work towards imparting training in soft skills to all the policemen in the country.
- Ministry of Home Affairs de-merged NCRB from BPRD recently.
- The Government of India formally established the Bureau of Police Research and Development (BPR&D), under the Ministry of Home Affairs giving a new orientation to then existing Police Research and Advisory Council (1966).
- BPR&D was to directly participate in police functions and suggest reforms.
- Its primary objective was to modernize police force and
 - i. To take direct and active interest in the issues
 - ii. To promote a speedy and systematic study of the police problems,
 - iii. To apply science and technology in the methods and techniques used by police.

BILATERAL ISSUES

India – U.S Defence Pacts

- There are four foundational agreements that help the U.S. to intensify its defence cooperation with a partner nation such as India.
- India has already signed two pacts such as Logistics Exchange Memorandum of Agreement (LEMOA) and General Security of Military Information Agreement (GSOMIA).
- LEMOA gives both nations access to each other's military facilities. But it does not make it automatic or obligatory.
- GSOMIA paved the way for greater technology cooperation in the military sector.
- The other two pacts which India yet to ratify are Communications Compatibility and Security Agreement (COMCASA) and Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA).
- COMCASA will facilitate transfer of encrypted communications systems.

- It helps in sharing high-tech military hardware, especially armed drones which the U.S. is willing to supply to India.
- BECA facilitates exchange of geospatial information.

2+2 dialogue (Two plus Two discussion)

- It is a diplomatic arrangement between India and U.S.
- It is going to be held in July in which Indian External Affairs and Defence Ministry will held meeting with their U.S counterparts.
- It is expected to further cement the India-U.S. engagements.
- It key focus areas will be concluding COMCASA and BECA pacts.
- Sale of armed drones is high on the agenda of the 2+2 dialogue.
- The U.S. has been engaging India since 2002 on the foundational agreements.
- But successive governments have been wary of giving in to the U.S. demands due to fear that these pacts may compromise India-Russia military ties.

CORPAT

- **India and Bangladesh** have agreed to institute a Coordinated Patrol (CORPAT) as an annual feature between the two Navies.
- The Navy regularly conducts CORPATs with Indonesia, Myanmar and Thailand. It also conducts EEZ surveillance of Maldives, Mauritius and Seychelles on their request.

India and Seychelles

- India has recently gifted a **Dornier maritime patrol aircraft** to Seychelles.
- It will enhance the surveillance capabilities of the island nation.
- The aircraft was built by Hindustan Aeronautics Limited (HAL).
- It can be used for multiple purposes like EEZ monitoring, maritime surveillance, pollution monitoring and control, search and rescue and commuter services.
- It is equipped with a 360 degree surveillance radar, satellite communication, traffic collision and avoidance system, enhanced ground proximity warning system and other sensor as requested by the operator.
- India has also announced a **\$100 million line of credit** under which Seychelles can purchase military hardware from India.
- However, there was no clarity on the nature of the cooperation over the development of Assumption island.

Exercise Malabar 2018

- Indian Naval Ships Sahyadri, Shakti and Kamorta of the Eastern Fleet currently on an overseas deployment to South East Asia and the Western Pacific to participate in the 22nd edition of Exercise Malabar, off Guam, USA.
- Exercise Malabar started as a bilateral exercise between the US Navy and the Indian Navy in 1992.
- It has evolved over the years with the participation of the Japanese Maritime Self-Defense Force (JMSDF) from 2007.
- It is for the first time that the exercise is being conducted off Guam, a major US Naval Base in the Western Pacific.
- US has recently named their Hawaii-based Pacific Command as the U.S. Indo-Pacific Command.
- Malabar 17 was held in July last year on the Eastern Sea Board of India, off Chennai and Visakhapatnam.

Operation NISTAR

- The Indians who were stranded in Socotra island after cyclone Mekunu hit the area were evacuated by INS Sunayna in an operation "Nistar".



- The cyclone Mekunu had badly hit various parts of Oman and the Socotra Island.
- Socotra also called Soqotra is located between the Guardafui Channel and the Arabian Sea.
- It is the largest of four islands of the Socotra archipelago.
- The territory is located near major shipping routes and is officially part of Yemen, and had long been a subdivision of the Aden Governorate.

INTERNATIONAL ISSUES AND EVENTS

Asian Infrastructure Investment Bank (AIIB)

- India has been the largest borrower of AIIB lending since the time the Bank started its operations.
- The total project portfolios amounts to US\$4.4 Billion.
- The 3rd Annual Meeting of AIIB is being organized by Govt of India, in collaboration with Maharashtra at Mumbai during 25-26 June 2018.
- The theme of the meeting is 'Mobilizing Finance for Infrastructure: Innovation and Collaboration'.
- AIIB is the first major multilateral development bank where principal contributors are the borrowing members themselves.
- Thus, it differs from most other multilateral development banks set up by advanced economies.
- The bank has 52 member states with its headquarters at Beijing, China.
- United States and Japan are not its members.
- China, India and Russia are the three largest shareholders of AIIB with voting shares are 26.06%, 7.5% and 5.92% respectively.
- Asian region contributes to 75% of the bank's capital.
- It offers sovereign and non-sovereign finance for projects in various sectors with an interest rate of London Interbank Offered Rate (LIBOR) plus 1.15 % and a repayment period of 25 years with 5 years in grace period.
- AIIB has also invested in projects outside Asia which serve to benefit the Asian region.
- So far, AIIB has only invested in one solar power project in Egypt.

Pakistan in Grey List

- Financial Action Task Force in its recently concluded meet in Paris agreed to implement the decision adopted earlier in February to place Pakistan in grey list.
- Previously, Pakistan has been placed in grey list from 2012 -2015.
- Following the grey listing if Islamabad does not comply with the FATF blueprint, it could be moved to the black list next year.

Financial Action Task Force

- The Financial Action Task Force (FATF) was set up in 1989 by the western G7 countries, with headquarters in Paris.
- The objectives are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.
- It is therefore a "policy-making body" which works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas.
- It is empowered to curtail financing of UN-designated terrorist groups.
- It can publicly sensor countries that are not abiding by its norms.
- FATF has 37 members that include all 5 permanent members of the Security Council, and other countries with economic influence.

- Two regional organisations, the Gulf Cooperation Council (GCC) and the European Commission (EC) are also its members.
- Saudi Arabia and Israel are “observer countries” (partial membership).
- India became a full member in 2010.

Third Neighbour Policy

- It is the policy pursued by Mongolia, which is a land-locked country between Russia and China.
- The policy refers to its building ties with countries other than China and Russia.
- Mongolia, historically Outer Mongolia, country located in north-central Asia.
- The national capital, Ulaanbaatar is in the north-central part of the country.
- The **Huns**, a people who lived in Central Asia from the 3rd to the 1st century BCE, may have been ancestors of Mongols.
- The country has a marked **continental climate**, with long cold winters and short cool-to-hot summers.
- The highest peaks are in the Mongolian **Altai Mountains** in the southwest.



Global Solar Bank

- International Solar Alliance (ISA) plans to setup global solar bank to finance \$150 billion of power projects.
- ISA will approach multilateral development banks (MDBs) to create a special purpose vehicle (SPV).
- This SPV would become a Global Solar Bank.
- 8 MDB's will be rolled in with which ISA has signed joint declarations.
- They are World Bank, African Development Bank, Asian Development Bank, AIIB, New Development Bank, European Investment Bank, European Bank for Reconstruction and Development and the Green Climate Fund (GCF).

Berne Convention

- The World Intellectual Property Organization has notified a declaration referring to the deposit by the Government of the Republic of India of its instrument of ratification on the Berne Convention for the Protection of Literary and Artistic Works 1886.
- Berne Convention, is an international agreement governing copyright, which was first accepted in Berne, Switzerland, in 1886.
- The Convention is open to all States and Instruments of ratification or accession must be deposited with the Director General of WIPO.
- The Convention deals with the protection of works and the rights of their authors.
- It is based on three basic principles
 1. principle of national treatment
 2. principle of automatic protection
 3. principle of independence of protection
- It contains a series of provisions determining the minimum protection to be granted, as well as special provisions available to developing countries that want to make use of them.

- The Appendix to the Paris Act of the Convention also permits developing countries to implement non-voluntary licenses for translation and reproduction of works in certain cases, in connection with educational activities.
- In these cases, the described use is allowed without the authorization of the right holder, subject to the payment of remuneration to be fixed by the law.

European Union Film Festival

- India is set to host 23rd European Union Film Festival this year.
- It is organized by Directorate of Film Festivals, Ministry of Information and Broadcasting.
- The festival will traverse through 11 cities in India including New Delhi, Chennai, Port Blair, Pune, Puducherry, Kolkata, Jaipur, Visakhapatnam, Thrissur, Hyderabad and Goa.
- It will showcase movies with a selection of 24 latest European films from 23 EU Member States.
- The **European Union** is a political and economic union consists of 28 countries.
- It has the world's largest economy and its third largest population, after China and India.
- A monetary union has been established within union but lacks common Fiscal union.
- The **Maastricht Treaty** established the European Union in 1993 and introduced European citizenship.
- The latest major amendment to the constitutional basis of the EU, the **Treaty of Lisbon**, came into force in 2009.
- The Lisbon Treaty now contains a clause under Article 50, providing for a member to leave the EU.
- United Kingdom enacted the result of a membership referendum in June 2016 and is currently negotiating its withdrawal.

Nikkei Asia Prize for Culture and Community

- Nikkei Asia Prize is an award which recognises the achievements that have improved the lives of people throughout Asia.
- Noted social reformer and founder of Sulabh International Bindeshwar Pathak was honoured with Japan's prestigious Nikkei Asia Prize for his significant work in tackling poor hygiene and discrimination.
- Sulabh International has ensured the safety of rural women and freedom from manual labor of removing human waste.
- The Nikkei Asia Prizes were created in 1996 to commemorate the 120th anniversary of Nikkei Inc's main Japanese-language newspaper.
- The coveted prize honors people who have made significant contributions in one of the three areas: regional growth; science, technology and innovation; and culture and community.
- Former PM Manmohan Singh and Infosys Chairman Narayan Murti are among the few Indians who have won the prize in the past.

ECONOMY

Banks Board Bureau (BBB)

- BBB has recently recommended 22 candidates from different banks for the executive director positions for state-run banks.
- It is an autonomous body created in 2016 to improve the governance of public sector banks (PSBs).
- It was initially given the mandate to **recommend candidates** for the top post in state-run banks and financial institutions.
- Later, BBB's role was expanded to help banks in developing strategies and capital raising plans.
- Its main purpose was to separate the day-to-day governance and supervision of the banks from the concerns of their ultimate owner, the government.
- **Concern** – It can only recommend candidates, but the appointment is made only by the government.



- In many instances, its recommendations being simply ignored by the government.
- Rather than going to the Cabinet for approval, its recommendations are re-scrutinised and sometimes overruled by the finance ministry.

MCLR and Base Rate

- Banks calculate the lending rates to its customers based on the base rate and Marginal Cost of Funds Based Lending Rate (MCLR).
- Base rate is the minimum rate set by the RBI below which banks are not allowed to lend to its customers.
- **Components of base rate** system are Cost of funds (interest rates offered by banks on deposits), Operating expenses to run the bank, Minimum Rate of return (margin or profit), Cost of maintaining the Cash Reserve Ratio (CRR).
- MCLR was later introduced by RBI, modifying the existing base rate system.
- **Components of MCLR** are Marginal cost of funds, cost for the banks in maintaining CRR with the RBI, operating expenses incurred by the banks and Tenor premium.
- The problem with the base rate system is that the repo rate and other borrowing rates were not explicitly considered.
- Whereas, MCLR is determined largely by the marginal cost for funds and especially by the deposit rate and by the repo rate.
- Thus, it makes the lending rates in line with RBI's repo rate.
- **Repo rate** is the interest rate at which the RBI lends money to commercial banks and it is calculated based on the prevailing inflation in the market.
- It is basically a tool deployed by RBI to control inflation through money supply.
- **Concerns** – RBI is yet to mandate banks to allow customers to shift from base rate system to MCLR.
- Thus, customers who signed up for loans in the erstwhile 'Base Rate' regime are paying higher rates and they can't shift to the current 'MCLR' structure, which is lower than the base rate.

Liberalised Remittance Scheme (LRS)

- Under LRS, all resident individuals can freely remit \$250,000 overseas every financial year for a permissible set of current or capital account transactions.
- Remittances are permitted for overseas education, travel, medical treatment and purchase of shares and property, apart from maintenance of relatives living abroad, gifting and donations.
- Under LRS, people can't send money to countries identified as 'non-cooperative' by the Financial Action Task Force.
- However, the rules do not allow remittances for trading on the foreign exchange markets and the purchase of Foreign Currency Convertible Bonds issued by Indian companies abroad.
- **Recent Concern** – Outward remittances under **maintenance of close relatives** shot up to almost \$3 billion in 2017-18 from a mere \$174 million in 2013-14.
- RBI has been concerned over this and thereby, it has narrowed the definition of relatives to check the flow of funds.
- Hence, funds under the 'maintenance of close relative' category can be sent only to immediate relatives such as parents, spouses, children and their spouses.
- This has brought about by defining 'relatives' under the Companies Act, 2013 instead of the same act of 1956.

Bharat – 22

- The first Further Fund Offer (FFO) of Bharat 22 Exchange Traded Fund (ETF) was recently launched.
- Bharat-22 will comprise stocks of 22 blue-chip **public sector units, State-owned banks and three private companies** where Specified Undertakings of the Unit Trust of India (SUUTI) has stakes.



- It is managed through ICICI Prudential Fund and it is in pursuance of government's disinvestment policy targeting an initial amount of Rs.6,000 crore.
- Earlier the government has launched Central Public Sector Undertakings (CPSE) ETF, which had stocks of many energy companies.
- Bharat 22 is a well diversified ETF spanning six sectors such as basic materials, energy, finance, FMCG, industrials and utilities.
- While CPSE ETF has only state-run companies as its constituents, Bharat-22 will give the government a shot at selling stakes in some of the private sector blue-chip companies as well.

Exchange Traded Fund

- An ETF is a type of fund that tracks the underlying assets and divides ownership of those assets into shares.
- The underlying assets can be shares of stock, bonds, oil futures, gold bars, foreign currency, etc.
- Shareholders do not directly own or have any direct claim to the underlying investments in the fund, rather they indirectly own these assets.
- The ETFs trading value is based on the net asset value of the underlying stocks that it represents.
- ETF shareholders are entitled to a proportion of the profits, such as earned interest or dividends paid, and they may get a residual value in case the fund is liquidated.
- **ETF Vs Mutual Fund** - The transaction of stocks and bonds under the Mutual Fund is with the company that manages the fund.
- Whereas in ETF, the ownership of the fund can easily be bought, sold or transferred in the same way as shares of stock, since ETF shares are traded on public stock exchanges.

Export Credit Guarantee Corporation (ECGC)

- The Cabinet Committee on Economic Affairs has approved the capital infusion of Rs.2000 crore for strengthening of Export Credit Guarantee Corporation (ECGC).
- ECGC is a premier export credit agency to provide export credit insurance services to facilitate exports from the country.
- It offers credit insurance schemes to exporters to protect them against losses due to non-payment of export dues.
- The capital infusion would enhance insurance coverage to MSME exports.
- It will strengthen India's exports to emerging and challenging markets like Africa, CIS and Latin American countries.

ENVIRONMENT

Animal Welfare Board of India

- It is a statutory, advisory body established under Prevention of Cruelty to Animals (PCA) Act, 1960.
- It is within the jurisdiction of the Ministry of Environment, Forest and Climate Change.
- It ensures implementation of the animal welfare laws in the country and provides grants to animal welfare organizations and advice the Centre, States and UTs on animal welfare issues.
- As per the Act, the Board comprises of 28 Members including 6 MPs (4 from Lok Sabha and 2 from Rajya Sabha) with the term of 3 years.
- It is headquartered at Ballabgarh in Haryana.
- Last year, the government has notified that the board will be permanently chaired by official from the ministry of environment.
- Recently, the board has issued directives to all the state departments to save stray animals from cruelty.
- Thus, the responsibility of protecting stray animals is given to state departments. Previously it was the responsibility of cow shelters and animal activists.

- The board does not have the right to prescribe punishments or fines for violations of the PCA Act but can pursue legal action.

Devrais

- Devrais (Dev - 'God' and Rai - forest) is the name given to sacred groves located in Western Ghats of Maharashtra.
- A sacred grove can range from a few trees to several hundred trees in a cluster with a local deity.
- They have been nurtured by local communities residing there, who draw upon traditional knowledge to conserve these patches of forestland.
- Owing to rising urban migration and eroding ties to nature, younger generation have little awareness about the importance of preserving these groves.
- Recently, a city-based environmental NGO has come up with a unique initiative to comprehensively document sacred groves in Maharashtra.
- It is not only to encourage local communities to carry their traditions forward, but to document regional deities in what proposes to be a socio-cultural assessment.

Transfer of Tiger

- Tigers are being translocated from one state to another for the first time in the country.
- The process is initiated to transfer from Kanha Tiger Reserve in Madhya Pradesh to Satkosia Tiger Reserve (STR) in Odisha.
- Wildlife Wing of the State Government will have to work with Wildlife Institute of India (WII) for translocation of the tigers.

Global Environmental Facility (GEF)

- India recently announced that it will increase grants to \$15 million to GEF for the next 4 years.
- GEF was established in 1991 as a pilot program in the World Bank to assist in the protection of the global environment and to promote environmental sustainable development.
- The UNDP and UNEP and the World Bank were the three initial partners implementing GEF projects.
- In 1992, at the Rio Earth Summit, the GEF was restructured and moved out of the World Bank system to become a permanent, separate institution.
- Today it is an **international partnership of 183 countries**, international institutions, civil society organizations and the private sector that addresses global environmental issues.
- Since 1994, the World Bank has served as the Trustee of the GEF Trust Fund and provided administrative services.
- GEF funds are available to developing countries and countries with economies in transition to meet the objectives of the international environmental conventions and agreements.
- The GEF is a financial mechanism for 5 major international conventions
 1. The Minamata Convention on Mercury,
 2. The Stockholm Convention on Persistent Organic Pollutants (POPs),
 3. The United Nations Convention on Biological Diversity (UNCBD),
 4. The United Nations Convention to Combat Desertification (UNCCD) and
 5. The United Nations Framework Convention on Climate Change (UNFCCC).
- The GEF, although not linked formally to the Montreal Protocol on Substances that Deplete the Ozone Layer (MP), supports implementation of the Protocol in countries with economies in transition.
- The GEF has 18 agencies as the operational arm of the GEF.
- These agencies work closely with project stakeholders to design, develop and implement GEF-funded projects and programs.

ParyavaranRakshaks

- Union Minister for Environment, Forest and Climate Change has urged school children to become environment protectors (ParyavaranRakshaks).
- They will help the government and society overcome the menace of plastic pollution.
- The Minister administered a pledge to the children to undertake one Green Good Deed every day, minimise the use of plastic and contribute their mite to totally stop single use plastic in our day-to-day life
- The minister expressed the idea in a mini marathon called Envithon.
- June 3 is also being celebrated as World Bicycle Day across the world for the first time.

'Blue Flag' tag

- The **Chandrabhaga beach on the Konark coast of Odisha** will be the first in Asia to get the Blue Flag certification.
- The tag is given to environment-friendly and clean beaches, equipped with amenities of international standards for tourists.
- It will be awarded the honor on World Environment Day on June 5, Environment Ministry sources say.
- Twelve more beaches in the country are being developed by the Society for Integrated Coastal Management (SICOM), an Environment Ministry's body working for the management of coastal areas, in accordance with the Blue Flag standards.
- The standards were established by the Copenhagen-based Foundation for Environmental Education (FEE) in 1985.
- The Environment Ministry embarked on the Blue Flag project in December 2017.

Taj Declaration

- It is a plan to make Taj Mahal premises litter-free.
- A 'Taj Declaration to Beat Plastic Pollution' was adopted as part of which efforts would be made to make the 500-metre area around the 17th century monument litter-free.
- Steps would also be taken to phase out single-use plastic.
- The declaration is in line with the Environment Day theme "Beating Plastic Pollution".

World Environment Day

- World Environment Day is celebrated on every 5th June of the year.
- The theme for this year's Environment Day, organised in partnership with the United Nations Environmental Programme, is "Beat plastic pollution"
- India is the global host nation for the 43rd edition of this event.
- India leads the charge in battling plastic pollution on World Environment Day.
- According to the Central Pollution Control Board, India generates about 15,000 tonnes of plastic waste every day, of which about 40% remains uncollected.
- About 70% of the plastic packaging products become "waste" in a short span of time.
- While plastics have a wide variety of applications, the global rally is against the so-called "single use" or disposable plastic – used in bottles, cups, wrapping paper and bags.
- Together, they account for over half the plastic produced.

Green Initiatives Program on World Environment Day

- Indian Navy has completed four years of its Green Initiatives Program on World Environment Day.
- The adoption of a comprehensive 'Indian Navy Environment Conservation Roadmap' has put Indian Navy on an ambitious path of synergizing 'Blue Water capability with a Green footprint'.



- With an aim to achieve zero carbon foot print, 'Energy Efficiency' concept of sustainable green technologies/norms based on GRIHA, LEEDS, Green Fuels, MARPOL compliance and alternative energy resources are being adopted in all future plans.
- Every year, the world uses 500 billion plastic bags which contribute to 10 % of all the waste being generated.
- Towards the objective, continuous and focused efforts are being put in place to ensure that the Naval establishments remains devoid of non-biodegradable material at all times.

Ganga Praharis

- Ganga Praharis will boost Bio-Diversity conservation in order to educate, motivate and ensure protection of aquatic species of river Ganga.
- A new **grassroot-level volunteer workforce** is out there to protect the bio-diversity of river Ganga called Ganga Praharis.
- They are spread over Ganga basin states of Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.
- They were roped-in by Wildlife Institute of India (WII), Dehradun as part of the "Biodiversity Conservation and Ganga Rejuvenation" project.
- The project is sponsored by National Mission for Clean Ganga (NMCG) under the aegis of the NamamiGange program.
- The Ganga Praharis will be the role models in inspiring other members of the community to join hands in the efforts for conservation of the biodiversity of river Ganga.
- Each Prahari shall work on the model of 'Each One Make Ten'.
- The Ganga Praharis of the five main stem Ganga basin states will be linked through mobile applications such as Bhuvan Ganga app, my gov app and Swachhta app thereby creating a broad network among them.

World Oceans Day 2018

- The UN General Assembly designated 8 June as World Oceans Day.
- The concept of a 'World Oceans Day' was first proposed in 1992 at the Earth Summit in Rio de Janeiro as a way to celebrate our world's shared ocean and our personal connection to the sea.
- It is to raise awareness about the crucial role the ocean plays in our lives and the important ways people can help protect it.
- The UN Division for Ocean Affairs and the Law of the Sea is actively coordinating different activities of the World Oceans Day.
- UNESCO's Intergovernmental Oceanographic Commission (IOC) sponsors the World Ocean Network, which has since 2002 been instrumental in building support for ocean awareness events on 8 June.
- This year's theme for World Oceans Day will be preventing plastic pollution and encouraging solutions for a healthy ocean.

KeibulLamjao National Park and Sangai

- The Park is situated in the North Eastern state of Manipur.
- The marshland located on the southern end of the Lotak Lake was marked and named KeibulLamjao National Park.
- The Lotak Lake is under the Montrex Record.
- The Park is said to be the only floating national park in the world.
- Brow-antlered deer is found only in KeibulLamjao National Park.
- The Habitat of Sangai is the floating marsh called phumdis in Manipur's Loktak Lake.
- The brow-antlered deer is known by several other names such as dancing deer, Eld's deer, sangai and thamin.
- It is believed that the dancing deer got its name due its delicate hopping while moving between the phumdis.
- It is the State animal of Manipur.



- The deer population is said to migrate from phumdis to nearby island hillocks when their habitat gets flooded.

SCIENCE AND TECHNOLOGY

SPACE

Opportunity Rover

- Opportunity rover was launched by NASA in 2003 to land in red planet Mars.
- The rover landed in 2004 and begin traversing the planet in search of signs of past life.
- It is still actively exploring the Martian terrain.
- It was originally planned for 90-day mission. But it has far outlasted its planned mission by 55 times longer than originally planned.
- Mars is prone to dust storms due to its thin atmosphere and deserts conditions.
- Recently, it witnessed an immense dust storm which led to the impenetrable, perpetual night in the planet.
- Since, opportunity rover is a solar powered, the amount of light the spacecraft receives has dropped to less than 1 percent of normal levels.
- Before the storm began, it had been rolling down a channel called Perseverance Valley, which scientists think may have been carved by water billions of years ago.
- Curiosity - It is also a rover deployed by NASA in its Mars Exploration Program in 2012 to assess whether Mars ever had an environment able to support small life forms called microbes.
- The rover captured mesas and buttes on mars geological layer called as Murray formation, which is formed from the lakebed mud deposits.

Sub-Saturn like Planet

- A team of Scientists from India has discovered a sub-Saturn or super-neptune size planet around a sun-like star.
- It has mass of about 27 Earth Mass and size of 6 Earth Radii.
- The planet will be known as EPIC 211945201b or K2-236b.
- With this discovery, India has joined a handful of countries, which have discovered planets around stars beyond our solar system.
- The discovery was made by measuring the mass of the planet using the indigenously designed “PRL Advance Radial-velocity Abu-sky Search” (PARAS) spectrograph.
- PARAS is the **first of its kind spectrograph in Asia**, which can measure the mass of a planet going around a star.
- The spectrograph is integrated with telescope at PRL's Gurushikhar Observatory in Mount Abu, India.
- Very few spectrographs exist around the world that can do such precise measurements.

Indo-UN Small Satellites Programme (UNSSP)

- UNSSP is launched by ISRO to train 90 qualifying engineers from various countries to build and test three small satellites each year.
- ISRO's Bengaluru-based U.R. Rao Satellite Centre (URSC) until recently known as ISAC will train the overseas students.
- Students will be hosted in Bengaluru for two months each year and work in three annual batches of 30.
- This capacity-building programme is in response to a request that the UN Office for Outer Space Affairs had made to space-faring nations last year.
- **UNISPACE+50** - It is an event marking the 50th year of the first UN Conference on the Exploration and Peaceful Uses of Outer Space.

Ryugu Asteroid



- A Japanese Probe “Hayabusa2” has recently reached “Ryugu”, an asteroid 300 million km away from Earth.
- Japan Aerospace Exploration Agency, JAXA has launched the probe in 2014.
- The aim of the mission is to collect information about the birth of the solar system and the origin of life.
- It identify suitable sites to take samples from once the probe touches down on the asteroid.
- It will deploy a small lander and three rovers.
- It will then blast an artificial crater to analyze material below the asteroid's surface. After that, the probe will head back to Earth, arriving near the end of 2020 with samples in tow.

Rare and Isolated Neutron Star

- The NASA scientists have discovered a special kind of neutron star for the **first time outside of the Milky Way** galaxy.
- Neutron stars are the ultra dense cores of massive stars that collapse and undergo a supernova explosion.
- The newly identified neutron star was discovered by using data from NASA’s Chandra X-ray Observatory and the European Southern Observatory’s Very Large Telescope (VLT) in Chile.
- It is a rare variety that has both a low magnetic field and no stellar companion.
- Oxygen-rich supernova remnants of neutron stars E0102 are important for understanding how massive stars fuse lighter elements into heavier ones before they explode.

IMAP

- NASA’s Interstellar Mapping and Acceleration Probe (IMAP) mission will help researchers better understand the boundary of the heliosphere.
- NASA is targeting 2024 for the launch of a new mission to learn more about the generation of cosmic rays in the heliosphere.
- Heliosphere is the region where the constant flow of particles from our Sun, called the solar wind, collides with material from the rest of the galaxy.
- Cosmic rays created locally and from the galaxy and beyond affect human explorers in space and can harm technological systems, and likely play a role in the presence of life itself in the universe.
- The spacecraft will be positioned about 1.5 million kilometres away from Earth towards the Sun at what is called the first Lagrange point or L1.

K2 Mission

- A new mission plan named K2 "Second Light" was presented for consideration in 2013 by NASA.
- The K2 mission represents a new concept for spacecraft operations that enables continued scientific observations with the Kepler space telescope.
- K2 would involve using Kepler's remaining capability, photometric precision of about 300 parts per million, to collect data for finding and studying more exoplanets.
- In this proposed mission plan, Kepler would search a much larger area in the plane of Earth's orbit around the Sun.
- It entails a series of sequential observing Campaigns of fields distributed around the ecliptic plane and offers a photometric precision approaching that of the original Kepler mission.
- The K2 mission welcomes all proposals including, but not exclusive to, exoplanet, stellar, extragalactic, and solar system science.

DEFENCE

Pinaka

- Pinaka Mark I is an indigenous multi-barrel **unguided rocket** launch system developed by DRDO for firing of multiple warheads.



- It was used in the 1999 Kargil conflict. It has a range of 40 km.
- It was later transformed in to a short-range precision **guided missile** and thus renamed as Guided Pinaka – Mark II.
- It has high accuracy and equipped with a navigation, guidance and control system with a range of 70 to 80 km.
- The missile is currently undergoing trials and expected to be delivered to the Army in two years.

Multi-barrel rocket Vs Guided Missile

- A Multiple rocket launcher is a type of rocket artillery system with multiple warheads and it was launched simultaneously by an unguided system.
- Guided Missile is a self propelled and launched by a precision guided system and it has 4 components such as targeting/missile guidance, flight system, engine and warhead.

Apache Helicopters

- Apache Helicopters are developed by USA which belongs to heavy helicopter weighing more than 5 tonnes.
- India signed procurement plan of Apache helicopters with USA in 2015.
- Recently, the U.S. State Department approved the sale of six additional AH-64 Apache attack helicopters to India for the Army.
- Currently, the Army operates only smaller Cheetah and ALH (Advanced Light Helicopters) that weigh less than 5 tonnes.
- All bigger helicopters, including the Mi-35 attack helicopters, and fixed-wing aircraft are operated by the Indian Air Force (IAF).
- Under the present procurement plan, the IAF will operate 22 Apache attack helicopters, while the Army will have 6 of them.

Dhanush Artillery Gun

- It is an indigenously developed gun and upgraded version of the Swedish Bofors gun procured by India.
- It is a 155 mm ammunition system with a range of 36 km.
- It is compatible with all North Atlantic Treaty Organisation (NATO) 155mm ammunition systems.
- It has successfully completed final trials and is ready for induction into the Army.

Rani Rashmoni

- It is a fast patrol vessel, indigenously built by Hindustan Shipyard.
- It is built under the Fast Patrol Vessel (FPV) project of Indian Coast Guard.
- Under the first phase of the project, 5 FPV's has been built.
- The first four such ships are ICGS Rani Abbakka, ICGS Rani Avanti Bai, ICGS Rani Durgavati and ICGS Rani Gaidinliu.
- They have been commissioned and are in active service at various locations on the eastern seaboard.
- Rani Rashmoni is the last in the first phase and recently commissioned into the ICG.
- It will be based in Visakhapatnam.

OTHERS

Chlorophyll – f

- It is a type of chlorophyll that uses near-infrared light from the sun for photosynthesis.
- It is found in a wide range of cyanobacteria (blue-green algae) when they grow in near-infrared light.
- It is also founded in shaded conditions such as bacterial mats and beach rocks.
- It also occurs in a cupboard fitted with infrared LEDs.

- These insights could be useful for researchers to develop crops to perform photosynthesis using wider range of light.
- Usually, plants use chlorophyll-a for photosynthesis that is sensitive to visible red light from the sun.

Global Classification of Diseases

- The World Health Organization (WHO) has released its new International Classification of Diseases (ICD-11).
- ICD is a unique code for diseases, injuries that helps health professionals to share health information across the globe.
- It is also used by national health programme managers, health insurers whose reimbursements depend on ICD coding.
- The latest edition ICD – 11 provides significant improvements on previous versions in coding structure and electronic tooling.
- This will allow health care professionals to more easily and completely record conditions.
- ICD-11 will be presented at the World Health Assembly in May 2019 for adoption by Member States.
- It will come into effect on 1 January 2022.
- **New Additions in ICD-11** – It includes new separate chapters including traditional medicine and sexual health which was previously categorized in mental health conditions.
- Gaming disorder has been added to the section on addictive disorders
- The codes relating to antimicrobial resistance are more closely in line with the Global Antimicrobial Resistance Surveillance System (GLASS).

Legalisation of Marijuana

- Canada is to become the second country in the world to fully legalise marijuana after Uruguay.
- It paves the way for **recreational cannabis** to be legally bought and sold within the next two or three months.
- Medical marijuana is already legal in Canada.
- Marijuana is a psychoactive drug from the Cannabis plant used for medical, recreational & religious purposes.
- Cannabis can be used by smoking, vaporization, within food, or as an extract.
- It creates mental and physical effects, such as a "high" or "stoned" feeling, a general change in perception, and an increase in appetite.
- **Short term side effects** may include a decrease in short-term memory, dry mouth, impaired motor skills, red eyes, and feelings of paranoia or anxiety.
- **Long term side effects** may include addiction, decreased mental ability and behavioural problems in children whose mothers used cannabis during pregnancy.

Spanish Flu

- The outbreak of Spanish Flu in 1918 is the history's worst known infectious disease.
- It is considered to be one of the global pandemics that causes death of 40 millions in 1918-1919 across the world.
- Influenza is a virus that is known to cause the flu.
- The virus attacks mainly the upper respiratory tract such as the nose, throat and bronchi and rarely also the lungs.
- The different types of influenza include A, B and C.
- The serotypes of influenza A virus like the H1N1, H5N1, H3N2, etc., have caused pandemics in humans.
- H1N1 is the strain that caused Spanish outbreak which acquired the ability to infect humans and then to become transmissible among humans.



- The virus is easily passed from person to person through the air by droplets and small particles excreted when infected individuals cough or sneeze.
- The influenza virus enters the body through the nose or throat and takes between 1 to 4 days for the person to develop symptoms.
- Disease spreads very quickly among the population especially in crowded circumstances.
- Cold and dry weather enables the virus to survive longer outside the body than in other conditions and, as a consequence, seasonal epidemics in temperate areas appear in winter.

TB Vaccine for Diabetes

- A recent study has revealed that the tuberculosis vaccine called BCG (Bacillus Calmette–Guérin) might lower blood sugar in diabetes (Type 1) patients several years after they get the shot.
- **Type 1 diabetes** arises when the body's immune system kills the insulin-producing beta cells. Without insulin, cells cannot absorb sugar (glucose), which they need to produce energy.
- There is no patent for BCG, thus it promises a safe and inexpensive treatment for type-1 diabetes.
- BCG also protects against leprosy, sepsis among babies, and leishmaniasis.
- It is also the first approved immunotherapy against bladder cancer.

Oxytocin Ban

- The Ministry of Health and Family Welfare has **restricted the manufacture** of Oxytocin formulations for domestic use to public sector only from 1st July 2018.
- It has also **banned the import** of Oxytocin and its formulations.
- From 1st July 2018, no private manufacturer will be allowed to manufacture the drug for domestic use.
- Karnataka Antibiotics & Pharmaceuticals Ltd (KAPL) is the only public sector company, authorised for manufacturing this drug for domestic use.
- Oxytocin in any form or name will not be allowed to be sold through retail Chemist.
- **Oxytocin** - It is a hormone secreted by the pituitary gland in human.
- It is also called as Love Hormone.
- It plays a role in reproduction, child birth and lactation, apart from social interaction in humans.
- It also has physical and psychological effects, including influencing social behavior and emotion.
- Oxytocin is used both for humans and animals, to accelerate normal labour.
- It is being misused in the livestock industry to stimulate the mammary gland and induce milk production in farm animals.
- The drug's abuse in animals shortens their lives and makes them barren sooner.

Paraben Levels in Water

- A project is initiated to identify parabens and triclosan in water bodies to help develop measures to correct their harmful effects.
- Parabens are a group of organic compounds used as preservatives in cosmetics and hygiene products.
- They are harmful for human health and when they end up in water bodies with urban and hospital waste, they become a threat to corals and may cause hormonal disruptions in dolphins and other marine animals as well.
- Use of cosmetics with parabens could pose a risk of breast cancer in women.
- Multiple studies have linked chlorinated parabens to endocrine disrupting functions, specifically mimicking the effects of Estrogen.

Norman AI

- Norman is an artificial intelligence (AI) system created by the Massachusetts Institute of Technology (MIT).



- It is also known as the first psychopathic artificial intelligence.
- The goal is to explain in layman's terms how algorithms are made, and to make people aware of AI's potential dangers.
- Norman represents a case study on the dangers of Artificial Intelligence gone wrong when biased data is used in machine learning algorithms,
- The AI was named after the psychopathic killer Norman Bates in the 1960 Alfred Hitchcock film "Psycho."

INDEX AND REPORT

Composite Water Management Index

- The index is developed by NITI Aayog and it ranked states on how well they managed water.
- It is released by the Ministry of Water Resources.
- It comprises 9 broad sectors with 28 different indicators covering various aspects of groundwater, restoration of water bodies, irrigation, farm practices, drinking water, policy and governance.
- According to the recent report, Gujarat, Madhya Pradesh and Andhra Pradesh have managed water resources efficiently.
- Meghalaya, Uttarakhand and Nagaland are the bottom three states in the index.
- While Tripura has emerged as top performer in north-east, Rajasthan has emerged as the best performer in the incremental progress over last two years.
- Some of the other important findings from the recent report are,
 1. India is facing its "worst" water crisis in history and that the demand for potable water will outstrip supply by 2030, if steps are not taken.
 2. 21 cities, including Delhi, Bengaluru, Chennai and Hyderabad, will run out of groundwater by 2020, affecting 100 million people.
 3. Critical groundwater resources, which accounted for 40% of the water supply, are being depleted at "unsustainable" rates and up to 70% of the supply is "contaminated".

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